ARBOR AND BIRD DAY

ILLINOIS ——————————————— 1913

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ILLINOIS

Arbor and Bird Days

Friday, April 18.
Friday, October 24.
1913

CIRCULAR NO. 68

ISSUED BY

F. G. BLAIR,

Superintendent of Public Instruction.

CONTRIBUTORS.

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School Children, West Pullman.
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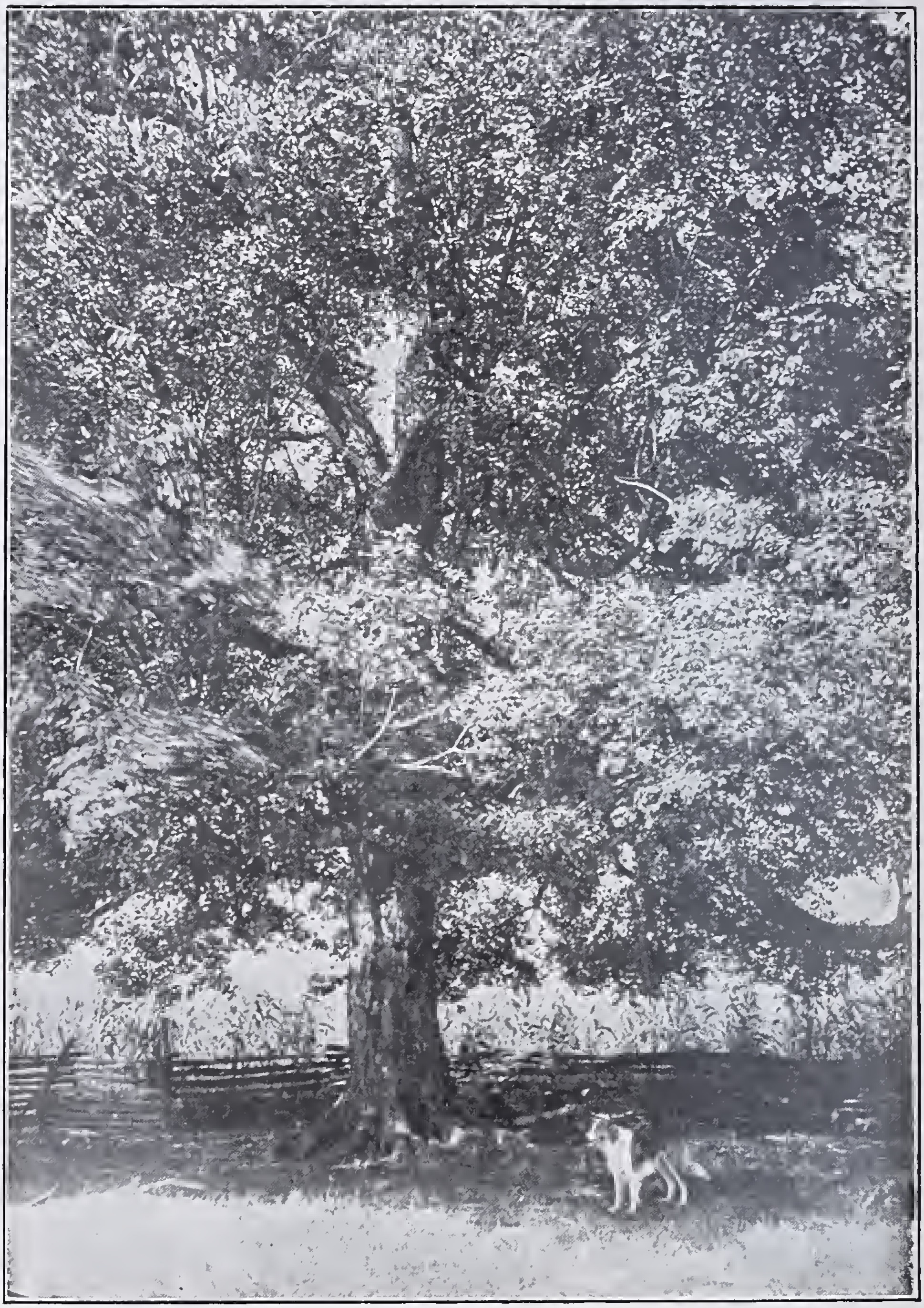


A PROCLAMATION.

State of Illinois,
Executive Department,
Springfield, Feb. 8, 1913.

Under the authority of the acts of the General Assembly, passed to encourage the planting of trees, shrubs and vines about the homes, along the highways, and about the public grounds within the State, and to encourage the protection of birds, I, Edward F. Dunne, Governor of the State of Illinois, do hereby designate Friday, April 18, 1913, and Friday, October 24, 1913, as Arbor and Bird Days. The two different days are designated to meet the difference in seasons in the northern and southern portions of the State.

I hereby urge municipal authorities, and all organizations intent upon civic improvement, to encourage by all proper means the planting of trees along the streets and highways, and the protection of song birds to the end that the beauty and comfort of the State may be increased to our people.

By appropriate exercises, and the planting of trees, vines and flowers, I especially urge school authorities to secure the observance of these days by the children under their care, thus inculcating a proper appreciation of these natural blessings and augmenting for them their present glorious heritage.

In testimony whereof, I have hereunto set my hand and caused to be affixed the Great Seal of State.

Done at the Capitol, in the city of Springfield, this eighth day of February, A. D. 1913, and of the Independence of the United States the One Hundred Thirty-seventh.

E. F. Dunne
Governor.

[Seal.]
By the Governor:

Harry Woods
Secretary of State.

CIRCULAR 68.

STATE OF ILLINOIS,
DEPARTMENT OF PUBLIC INSTRUCTION,
SPRINGFIELD, March 1, 1913.

To Teachers and Pupils:

Of course, a tree can't talk. But if it could remember and could tell what it remembers we might have thousands of such stories as this:

THE ELM TREE—Come, child, and sit within my shade. How like your father in face and form you are. Often as a child has he sat or played there as you do now. And before him did his father also. It seems but yesterday that the feeble, old man who but a year since held you on his knee was brought here by his mother and laid asleep beneath my shade while she went forward with her work. Though her work still goes forward, he and she both lie asleep over yonder under the white stones on the hill.

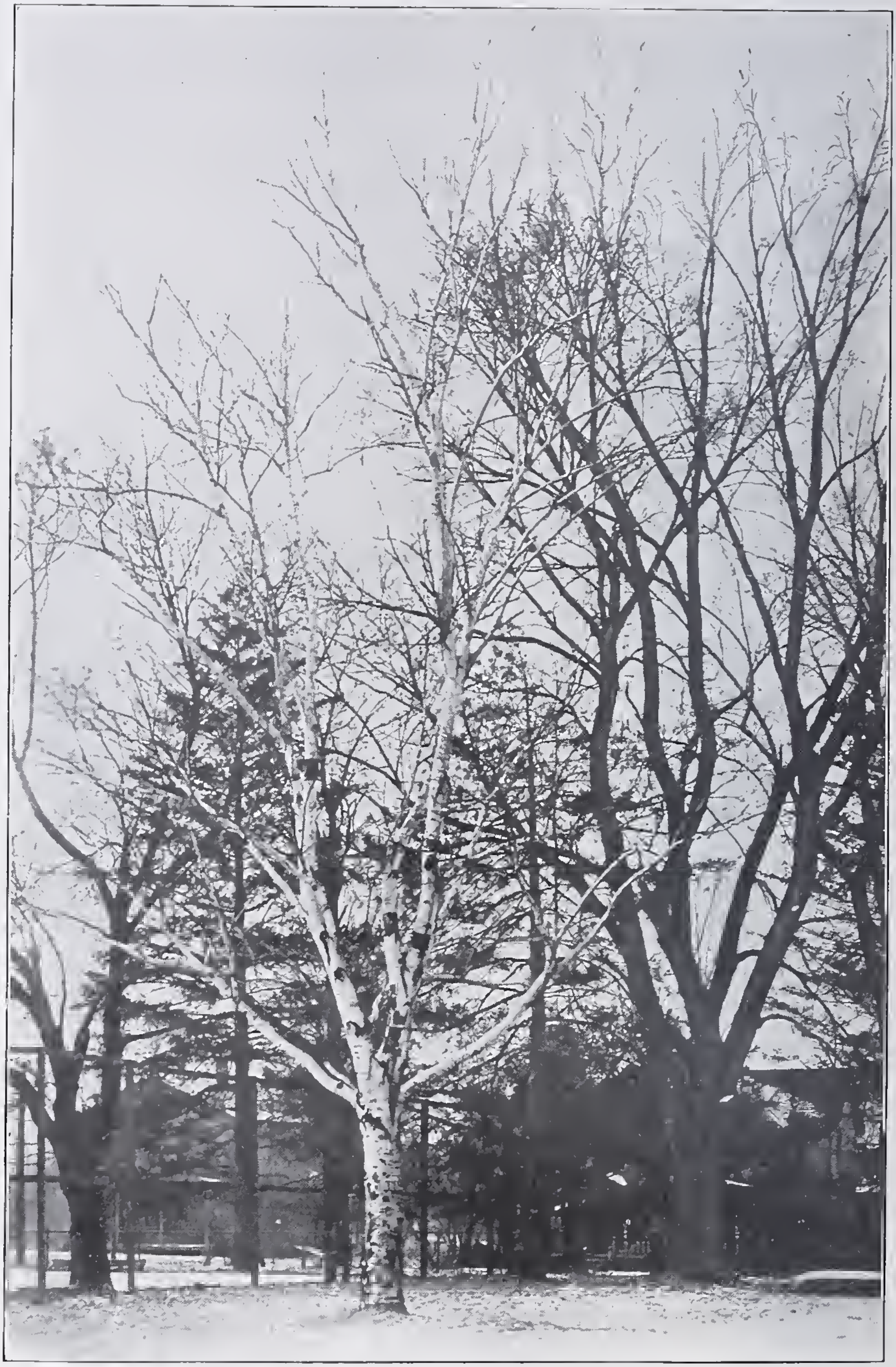
I never saw your great grandfather as a child. He came here as a strong man to search out a place to build a home for his new wife. How anxiously I watched as he moved here and there weighing the strong and the weak points of one spot after another. At last he came and looked at me. He stretched his arms about my trunk. He measured the length of my shade. He stepped off a hundred paces north and east and south and west and laid stones at the corners. How could I, who had known only the red man and the wild things of the forest, understand what all these things meant? Little did I guess that here he would build his home and hither would he bring his wife and here under my branches his children would play. Closely I watched him as he cut the trees and hewed them; as he laid them up and covered them in; as he built with stone and mortar the great fireplace and chimney, and as he dug a hole at the foot of the hill and walled it in with stone.

Then came the wife and under my shade she spent many of her summer days. Here with water from the well she washed the clothes. Here she spun the wool and flax. Here she sewed and knit. Here many hours of pleasure and rest and comfort passed.

And here one day, as I have said, she brought your grandfather asleep in her arms and laid him there where you now sit. That was a long time ago as you count it on the calendar. A hundred rings have grown around me, a hundred shades have come and gone, a hundred times the oriole and the robin have built their nests since that day.

He who built the home and she who filled it with life and joy, like my leaves have fallen back to the earth. But let not my sober tones fill you with overserious thoughts. Men, like birds, must build their nests and rear their young and sing their songs and go their way. But to the young everything should be young and new. Play your play, live your life and do your work. Let me alone mark the seasons change with falling leaf and circling wood. Let your heart, like the orioles, be filled with the joy of living and of doing, with the glory of a new year and a new opportunity.

F. G. Blair



A White Birch.

TREES IN THEIR RESTING SEASON.

Alice Jean Patterson, State Normal University.

There is little question that more has been said and written about trees than about any other group of plants. This is because trees are more attractive than other plants. They are attractive because of their long life, their large size, their usefulness, and beauty. Deciduous trees are especially attractive because of the seasonal variations that they display during each yearly cycle. Each season presents interesting features peculiar to itself. A little close study reveals the fact that at no other time are trees more intensely interesting than during the winter season, the period of rest and inaction.

There is something of mystery, even to one who is on intimate terms with trees, in the deliberate ceasing of work, the closing up of all avenues for communication with the outside world, and the dropping off into a trancelike sleep which is to last for a period of three or four months. The trees make most elaborate preparations for their resting season and the renewal of growth and work in the springtime. In fact, they begin to get ready for next winter almost as soon as they unfold their buds in the spring. If you look at a young twig not more than three or four weeks old, you will find at the base of each leaf-stem a tiny bud not larger than a pin head already started for next year. This bud grows rather slowly at first, but by the latter part of summer it has attained its full size. If you look at it closely at that time you will see that it is admirably constructed to spend several months exposed to the cold, the snow, and sleet of winter. On the outside are hard scales that overlap each other. Inside of these are other scales packed in so closely that you wonder how they can all find a point of attachment. In the very center is a tiny shoot, a miniature twig, with mere specks of

[Photograph by Fuller.]

Platanus occidentalis.

[Photograph by Laud.]

Trees at Rest.

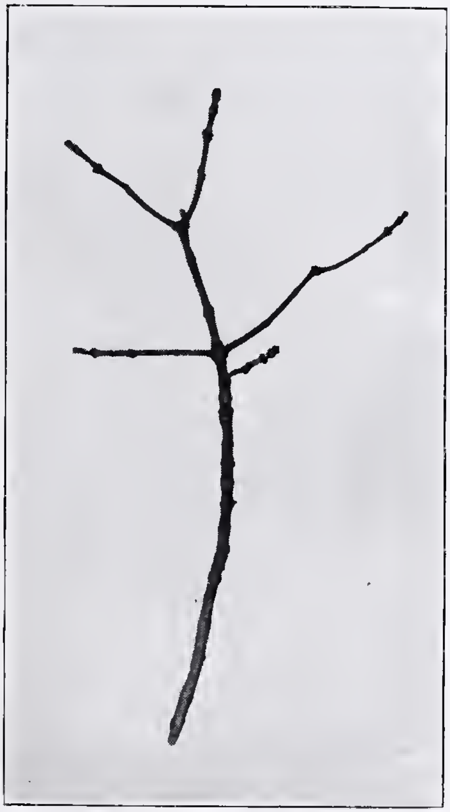
leaves. The scales protect the tender shoot from sudden changes of temperature, for it is not severe cold that injures buds so much as a quick change from a low to a high temperature, or from high to low. The scales are quite as useful in keeping the shoot from starting to grow the first warm days of spring as in keeping it from becoming suddenly chilled with the first drop of temperature in the fall. The scales protect the shoot also from mechanical injuries that may come to it, such as the pelting of hail or sleet.

Besides the forming of new buds for the resting season, trees lay up a large supply of food to use the moment they rouse up from their long sleep. All summer the leaves spend every moment of the long, light days in manufacturing starch, and other plant foods. Some of this food is digested and used at once in the growth of twigs and leaves, fruit and new wood, but large quantities are stored away in the stems and roots to use in the early spring growth.

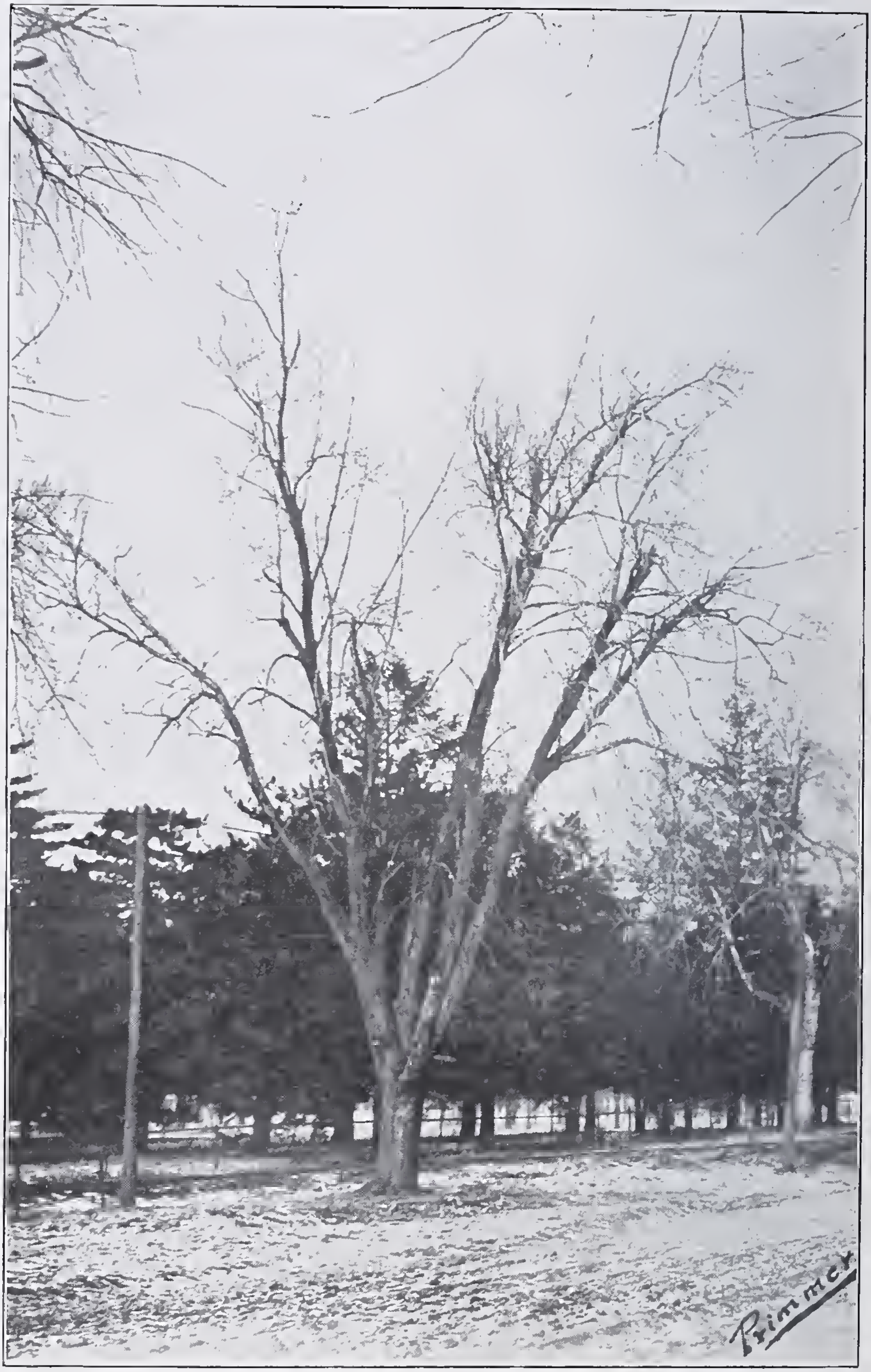
Toward the end of summer the leaves are less and less active. Their last work is to lay down a layer of cells at the very base of the petiole, or leaf stem. This may be called the cutting-off layer, for little by little it severs the leaf from the stem. The leaf may cling for a short time by a few threads or fibres, but finally a slight breeze or even its own weight causes it to loosen its hold and drop to the ground.

When the leaves begin to cease work, interesting changes occur in the chemical composition of the leaf substance, causing a change of color from green, to yellow, scarlet, and purple. So the beautiful autumn colors are simply a signal that the trees are closing down their starch factories and are getting ready for the resting season.

With the falling of the leaves the work of preparation is quite complete and the trees stand forth in all the wonder of their individualism. They offer us now the most favorable opportunity to become acquainted with their individual characteristics of shape and branching, of size and position of twigs, and of the intricate mosaics of the bark. It is the best time, too, to discover the remarkable variation of tree colors. In the summer the one color is green, in the winter



Twig of Ash.



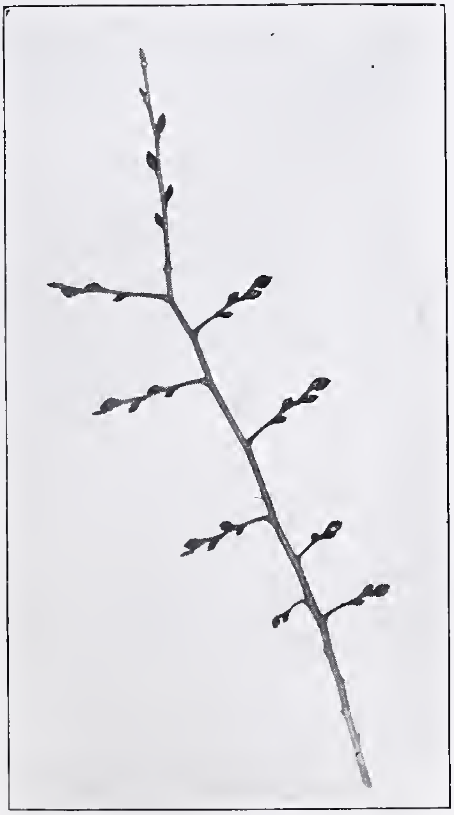
A Silver Maple.

there is at least a score of different shades and tints. It requires no close scrutiny to realize that the colorings of the winter woods are exquisitely beautiful. A mere passerby on a train or along the highway may see at a glance the rich browns and tans, the dark, light, and steel grays, the olives and purples, the coppers and old rose, the flashes of gold and red, and the gleam of a silver and blue through the tracery of twigs against the winter sky.

The colors are as moody as the winter weather. Today under the gray sky they are dark, almost somber. Tomorrow in the sunlight they are bright, and warm, and glowing. It is this subtle elusive change of color that carries with it the conviction that the winter trees are living beings, dormant, inactive, but alive.

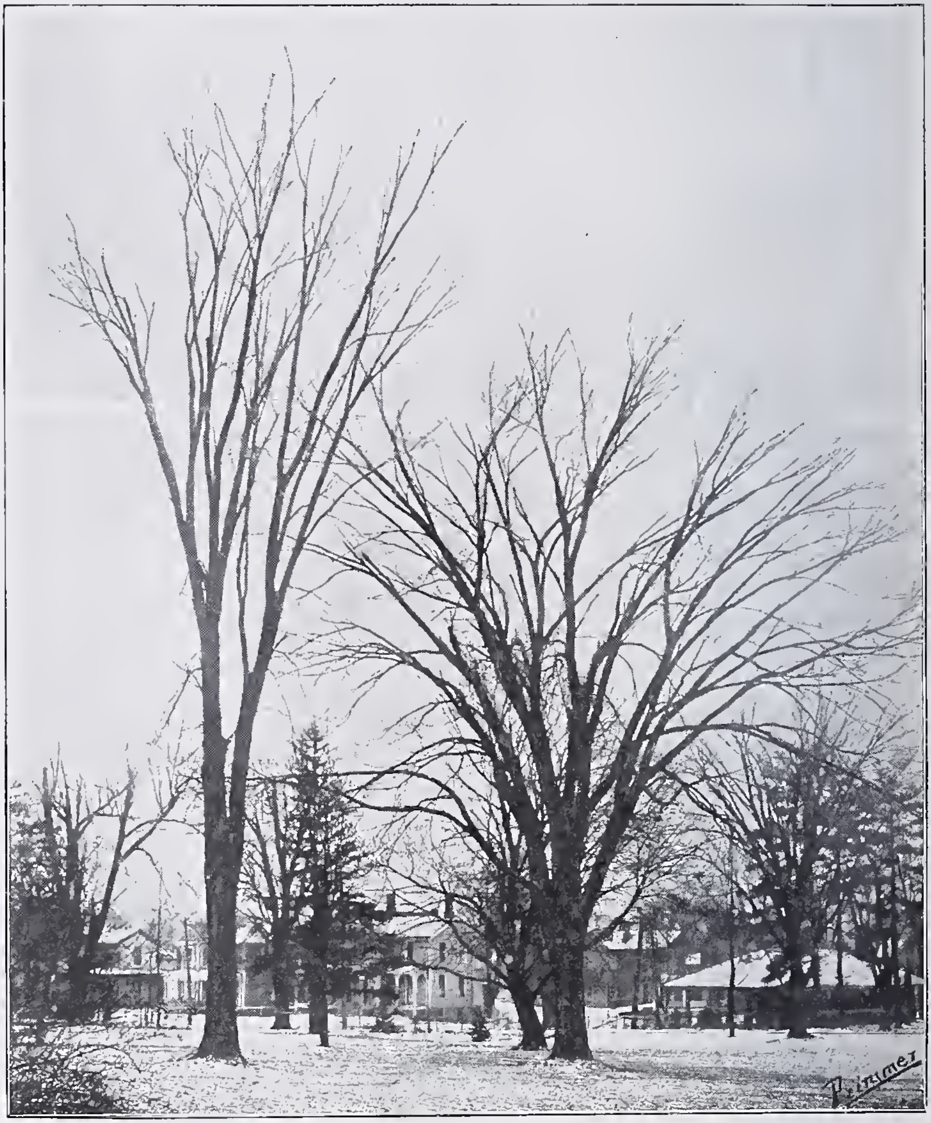
The mass effects of groups of trees gives us only a hint, now and then, of the individual shapes and colors of different trees. To appreciate this fully we must study the types at close range. Each species has its own peculiar characteristics that set it apart from all others, marking it so definitely that we recognize it wherever we see it.

The American elm is characterized chiefly by its form, which is that of an inverted cone. The cone varies, making two distinct types, one that spreads widely at the top like a huge umbrella, the other slight and delicate like a slender vase. The branches are numerous, the twigs fine, and thickly set with large, oval buds of a rich, brown color. No other tree possesses the gracefulness of form and the delicate tracery of twigs that make the elm one of the most inspiring objects in all the winter world.

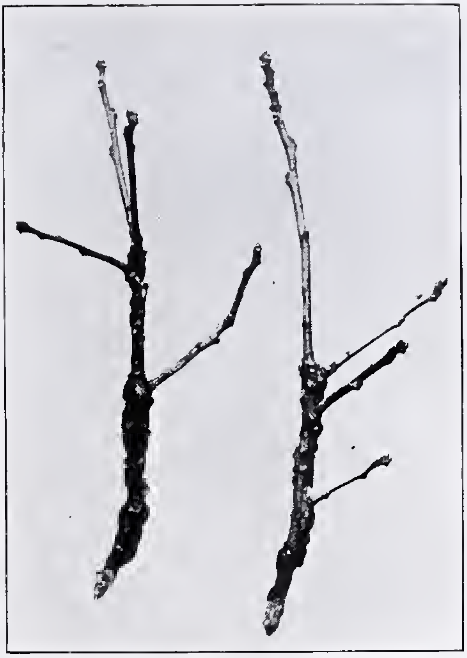


Twigs and Buds of American Elm.

The silver maple, familiarly known as the soft maple, is another attractive tree in winter garb. The lower and middle branches which droop far downward, ending with a peculiar upward curve, give the tree a grace not recognized during the summer months. Its greatest charm, however, is its colorings. The scaly trunk is a dark brownish gray with small patches of reddish tan marking the spots from which the scales have fallen. The large, smooth upper branches are a warm, light gray with a delicate flush of pink. The dark red twigs are set with great clusters of round buds, a rich mahogany in color. These are flower buds that usually open up into delicate fringy flowers before winter is really over.



Two Types of the American Elm.



[Photograph by Fuller.]

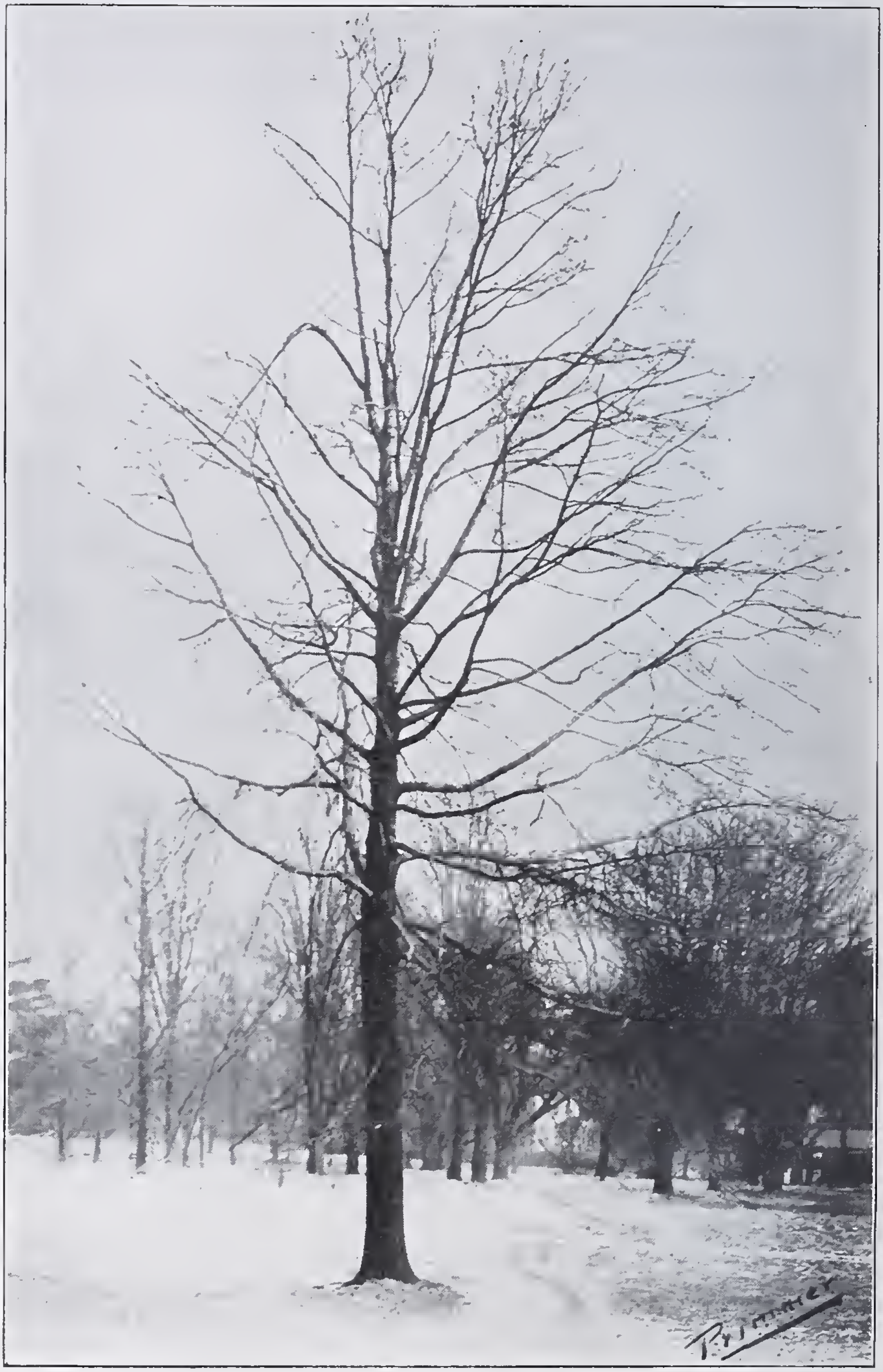
Quercus macrocarpa, with cork growth.

The sycamore in many parts of our State is found along streams in company with the elms and maples. It is strikingly different from either of these in both form and color. The upper branches are white and smooth. The trunk is peculiarly mottled cream, sage green, and gray with here and there a few patches of brownish, gray bark. The smooth, mottled surface is due to the fact that the tree sheds its bark as regularly as it does its leaves. There is little regularity in branching of the tree. The smooth, white limbs twist and turn and reach out in all directions in a most fascinating manner. They are conspicuous because of their whiteness and also because, as a rule, the sycamore stretches up a little higher than the surrounding trees. Swinging from the twigs are numbers of pretty tan-colored balls which remain dangling from the branches most of the winter and add much to the interesting features of the tree.

The oaks as a family stand for strength, massiveness, and endurance. These characteristics are especially prominent in white and bur oaks. The leaves of these trees, although dry and dead, cling to the twigs far into the winter, their purple and copper tints adding not a little to the beauty of the winter landscape. Toward the latter part of the season the leaves drop one by one and it is not till then that the magnificent sweep of the stalwart branches is revealed.

Red oaks as a family are not as large limbed as the white oaks. Perhaps the most delicate and ladylike of this family is the pin oak. Its dark, brown stem usually stretches unbroken from the ground to the top of the tree. The branches extend outward on all sides, making a very symmetrical head. The lower branches slope obliquely downward, often touching the ground, so that the outline of the tree is that of a pyramid. The small, pinlike twigs so evident in the winter probably give the tree its name of pin oak.

Along with the oaks are several other species of trees that belong to our native woods. The black walnut stands for stateliness. It is a tall tree with dark, deeply-furrowed bark. The furrows with their characteristic diamond pattern extend far up on the largest branches. The white walnut, or butternut, is similar in many respects to its relative. The bark characteristics, however, are different. It is also furrowed, but the edges of the ridges are flattened, while those of the black walnut are sharp and angular.



Pin Oak.

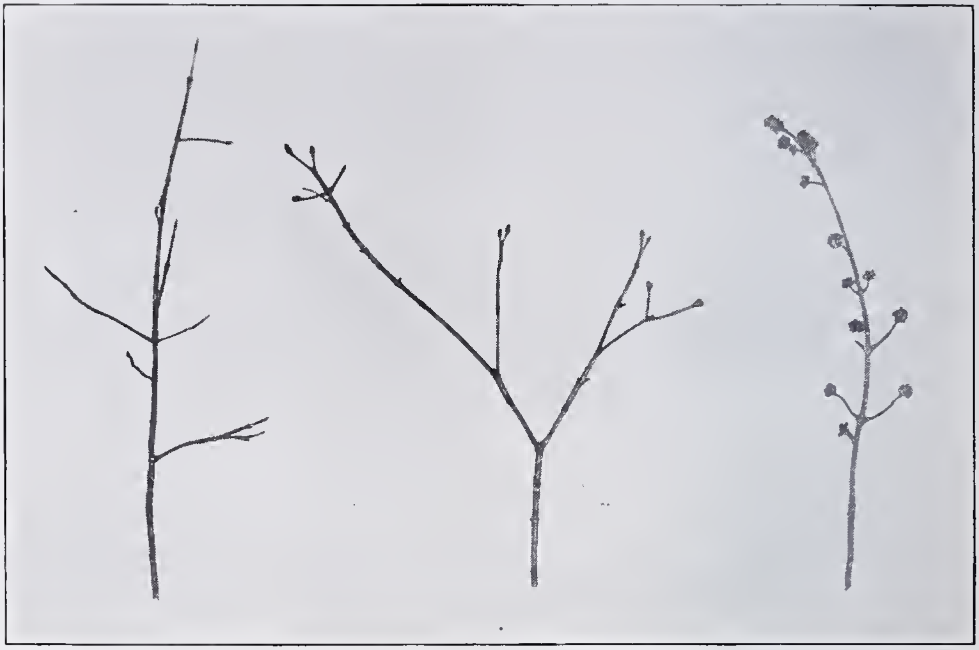
The hickories, while not as large as the walnuts, rival them in stateliness. The most interesting is the Shag bark. Its well-formed dark limbs and twigs, its large rusty buds and its shaggy coat of bark, make it one of the easiest trees to identify.

Trees vary greatly in their bark surface. Some are deeply furrowed with long parallel ridges and deep fissures like those of the elms, cottonwoods, and walnuts. Others have their bark creased and broken crosswise as well as lengthwise, forming scalelike plates, resembling the skin of an alligator. There are others in which the bark scales off in long strips. The Shag bark hickory is one of the best types of this kind. Some trees, like the birch and poplars, have a bark almost as smooth as paper. These different bark patterns are due to the way in which the bark grows. If the bark keeps pace with the wood in its growth it remains perfectly smooth. If the wood and the bark do not grow at the same rate the bark splits, causing the furrows or scales. In some trees the bark grows as fast as the wood for a number of years, hence we find in that case only the oldest part of the tree with a rough bark. The wild cherry is a good example. The large branches are perfectly smooth, only the trunk of the oldest trees are wrinkled and broken.

Twig of Birch.

Buds and twigs are often quite as reliable guides in the identification of trees as the bark, or leaves. Young twigs of almost all trees are smooth. Usually they differ from the rest of the tree in color, showing often the most exquisite tints and delicate markings. Many of our trees have most interesting twig and bud characteristics. The twigs of the linden are most strikingly beautiful. They are of a rich, purplish red with round beadlike buds as bright as garments. The older portions of the branches are just the right shade of brown to harmonize with the purple and red. The twigs of tulip trees are brown with a hint of old copper, while the shieldshaped leaf scars scattered over the surface are a light tan. The buds, queerly shaped, like flat pockets, have a more pronounced copper tint than the twigs. We have already called attention to the spraylike twigs and brown buds of the American elm. The red elm may be distinguished from its relative by a glance at the buds.

While they are similar in shape they are larger and are covered with a coat of brownish red hairs that make them look as if they had put on their furs for the winter.



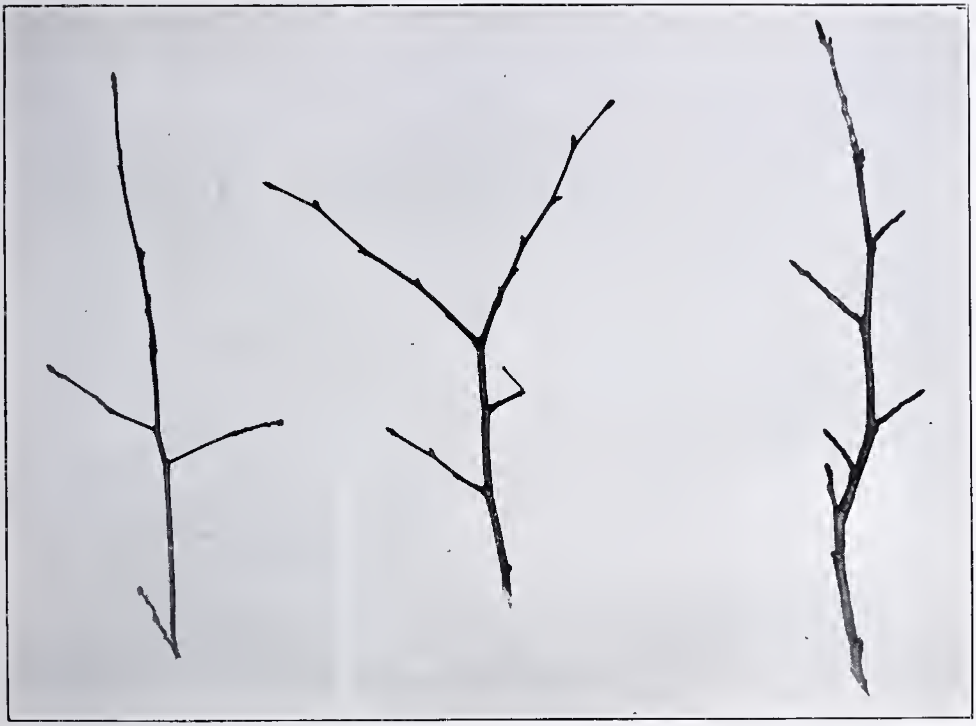
Sugar Maple. Norway Maple. Silver Maple.

Different species of maples also have characteristic buds and twigs. We have already spoken of the clusters of round buds on the silver maple. The sugar maple has small twigs and long pointed buds. The Norway maple, which is frequently used as an ornamental tree, has plump, reddish brown buds and golden brown twigs. The boxelder, a near relative of the maple, has olive green twigs and dark buds touched with a frostlike bloom. This tree has another characteristic winter feature. It retains the long racemes of winged seeds until the beginning of the spring season.

Ash trees are interesting in the winter, chiefly because of their twigs and buds. The twigs are thick, stiff, and blunt. The buds look like small wartlike excresences—rusty brown on the white ash, dingy brown on the black, and inky black on the European ash.

The sassafras twigs are among the prettiest of all. Those that are two and three years old are a dark green, the youngest ones are a lighter shade of the same color. The buds scales are green also but are edged with bright rose.

The birch is quite as beautiful as the sassafras. The twigs are slender and drooping, with small, pointed leaf buds and long rodlike staminate catkins. Often the pendant fruit of last year remains from which, occasionally, golden seeds fly out. All this with the white,

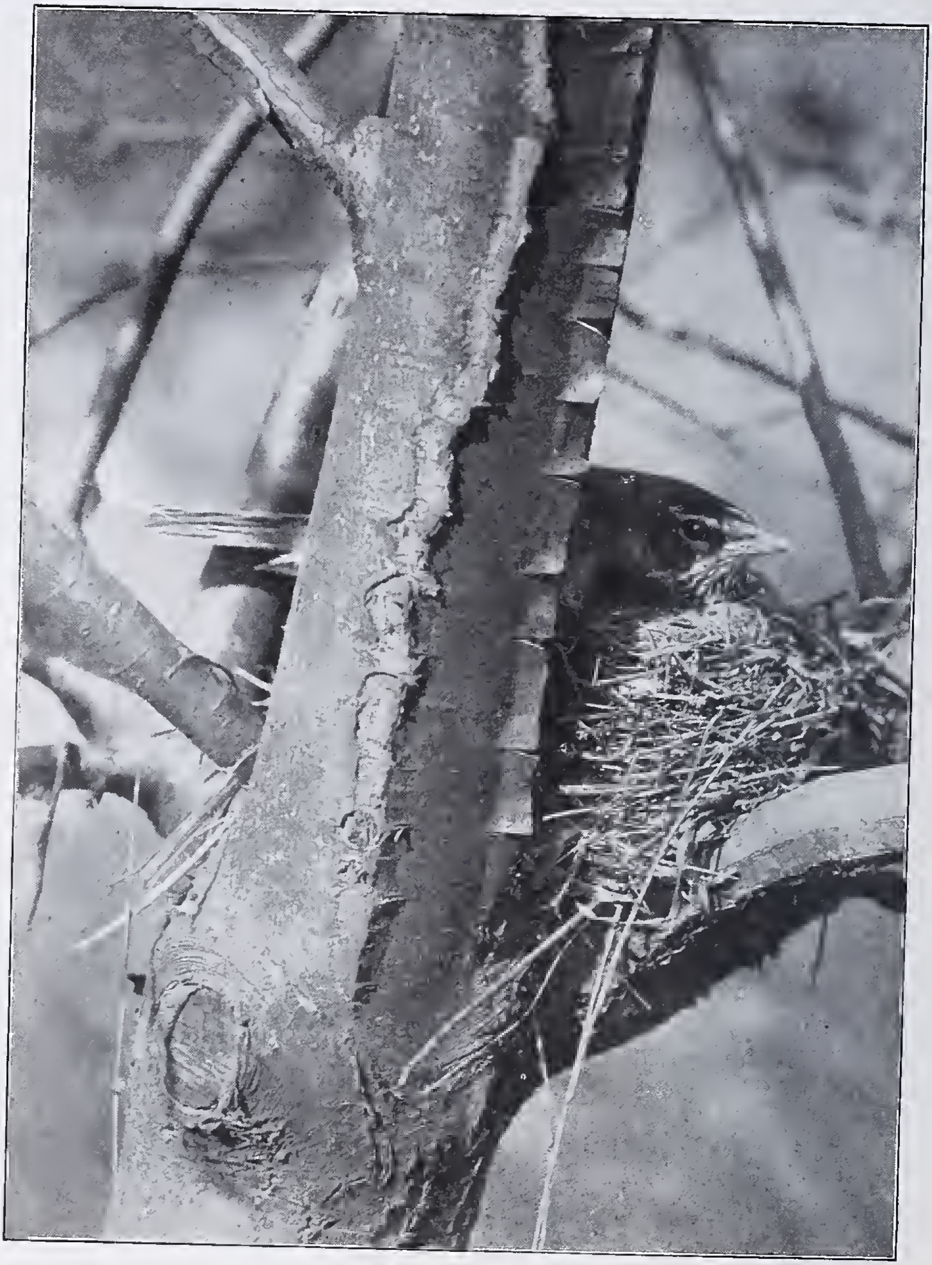


Sassafras. Linden. Tulip.

papery bark makes the birch one of the most picturesque of our deciduous trees.

The evergreen trees are interesting during the winter time because of their contrast to the deciduous trees. But while they retain their leaves they, too, are, for the most part, inactive. It is perhaps when they are weighted down with a load of snow that they are most attractive. A clump of evergreens bending under the white snow with a background of deciduous trees whose branches and spraylike twigs stand out against the gray blue sky give us a winter picture never to be forgotten.

An Inspiring Winter Scene.



Robin on the Nest.

PRIZE LETTER.

OUR BRAVE BIRDS.

Once I saw a pair of birds build a nest in a large elm tree. They were robins. After the nest was made the mother had four little blue eggs.

The mother would stay at home and sit on the eggs while the father would go out hunting for food. When the mother would get tired of sitting on the eggs she would call for her mate to come to sit on them while she went out for a rest.

By and by the mother had four little birds, and every day they grew larger. The parents brought bugs and worms and grasshoppers to feed to their babies.

We had a cat that liked birds. Every day he would go out under the tree and look up at the little birds. He watched them from day to day.

One morning the mother saw him watching her babies and she knew he was waiting for a chance to get one, so she flew down and nipped him right on the top of the ear.

The cat was so frightened that it never went near the tree again.

That shows how much a mother thinks of her family and we are glad the cat didn't get the young birds.

It is the most interesting thing to watch a family of birds and all their ways. We should think of all the good that comes from a little bird; and we should feed them when they come our way and not drive them away, but try to keep them with us.—*Ruth M. Barr, Muskegon, Mich., in By the Wayside.*

Tree Planted by Gen. U. S. Grant, December 6, 1879.

WHEN GRANT PLANTED THE TREE.

Chicago—[Editor of The Tribune]—In order to correct the mistakes in regard to the planting of the elm tree in Washington Park by ex-President Grant, I call your attention to The Chicago Tribune of Sunday, December 7, 1879, in which, under the heading of "Ex-President Grant Plants a Tree in the South Park," is given a full account of the planting ceremonies on Saturday, Dec. 6, 1879. * * * Several years after, a large stone boulder was placed 10 feet north of the trunk of the tree and on the north side of the stone is engraved:

Tree
Planted by
Ulysses S. Grant
November Eighteenth
1879.

The words "November eighteenth" should be erased and "December sixth" engraved in its place. There are many who are unable to locate the tree. It is a few rods south of Fifty-first street and about the same distance from Cottage Grove avenue.—*Richard S. Thompson.*

[*Note on General Grant's Tree*—Through the courtesy of John Barton Payne, President of the South Park Commission of the city of Chicago, we have been able to secure a fine photograph of the General Ulysses S. Grant Tree, which accompanies this letter and which adorns the front page of this Annual. Mr. Richard S. Thompson, whose name is attached to the letter, was attorney for the South Park Board at the time the tree was planted and made an address on that occasion. While this photograph has been made since Mr. Thompson called attention to the error in the date on the stone, the correction had not been made. The name of the month and the day on the boulder are covered up.]

The Timbered Regions.

ILLINOIS PRAIRIES AND FORESTS.

As Two Pioneers Saw Them.

The early settlers of Illinois sought the timbered regions of the southern part. Morris Birkbeck, who in company with other Englishmen, founded the settlement of Albion, made a prospecting trip into southern Illinois in 1817. The following description from his letters and notes will give a very definite impression of the forests as they existed at that time:

"Settlers did not begin to appreciate the great fertility and value of the prairie regions until later. In 1837 a young lady, who afterward became Eliza W. Farnum, came from New York by stage and boat to Peoria and then over into what is now Tazewell County to visit her married sister. We are indebted to this cultured, observing, nature-loving woman for our very best views of the prairies of central Illinois and of the forests that skirted the streams and the rivers. The selection here given is taken from her 'Life in Prairie Land.'"

Assemblage of Gigantic Beings.

TREES IN 1817.

MORRIS BIRKBECK.

Trees are very interesting objects to the American traveler; they are always beautiful; and in the rich bottoms they sometimes exhibit a grand assemblage of gigantic beings which carry the imagination back to other times, before the foot of a white man had touched the American shore. Yesterday I measured a walnut tree almost 7 feet in diameter, clean and straight as an arrow; and just by, were rotting, side by side, two sycamores of nearly equal dimensions! The sycamore grows, in bottoms liable to be overflowed, to an unwieldy bulk; but the white oak is the glory of the upland forest.

Trees, to the judicious and experienced observer, form an excellent criterion of the quality of soils, by their species as well as bulk; but in the American forests they have rarely an opportunity of swelling out to a large diameter, owing to their crowded growth. They are, for the same reason, very lofty, straight, and clear in their stems; sometimes 80 or 90 feet without a branch. I measured a white oak, by the roadside, which, at 4 feet from the ground, was 6 feet in diameter, and at 75 feet it measured 9 feet round, or 3 feet in diameter.

Before we entered on this flat country, were some hills covered with the grandest white oak timber, I suppose, in America (should I meet with anything to compare with this hereafter, I shall not fail to note it). There are thousands, I think, of these magnificent trees within view of the road for miles, measuring 14 or 15 feet in circumference; their straight stems rising without a branch, to the height of 70 or 80 feet, not tapering and slender, but surmounted by full luxuriant heads.

For the space of a mile in breadth, a hurricane, which traversed the entire western country in a northeast direction, about seven years ago, had opened itself a passage through this region of giants, and has left a scene of extraordinary desolation. We pass immediately on, after viewing those massive trunks, the emblems of strength and durability, to where they lie tumbled over each other like scattered stubble, some torn up by the roots, others broken off at different heights, or splintered only, and their tops bent over, and touching the ground—such is the irresistible force of these impetuous airy torrents.

THE PRAIRIES OF ILLINOIS—1837.

ELIZA W. FARNHAM.

"Summer had worn away, with its wealth of golden grains and flowers. The luxuriant harvest had disappeared from the farms in the adjacent country, the tall corn was in its sere and yellow leaf, the late fruits began to ripen, the prairies faded from their rich green, save where here and there a 'late burn' showed the tender grass, like an emerald island in vast brown ocean. Autumn in the prairie land is scarcely excelled for the richness of its charms by any other season. Coupled with the perfection of the wide vegetable world is an idea of repose which fills the soul. An immense country, whose energies have been springing all the previous months with ceaseless toil, whose rank luxuriance evinces the employment of tremendous powers, now lies all around you in the deep quiet which ushers in a truly natural death. The sun pours forth

Winter Joys.

a rich, mellow light; dim and soft, as if like a tender nurse he watched over this sleep of nature. The native birds, happy in the abundance which they cannot consume, fly cheerfully but quietly about, as if, their labor done, the season of rest had come to them also. The quail whistles and dances among the brown hazel thickets; the grouse flies from field to field, dividing his depredations through the neighborhood, and bearing off, when unmolested, a full crop to the plains, which he loves better than the abodes of man. The crow calls from the wood top, or wheels his long and lazy flights above the naked prairies, seeming really more amiable than at any other season. The air is filled with the smoke of distant fires; some day they creep up into your own neighborhood, and when night comes, light the heavens and the earth as far as the eye can reach. These are magnificent spectacles. I have stood upon the roof of our large hotel in the evening, and looked into a sea of fire which appeared to be unbroken for miles. These incidents occasionally interrupt the dreamy rest to which everything tends, but they pass away in a few hours, and the next day is as quiet as before. Sporting parties are made up among the gentlemen, and fruit parties, including ladies, to visit the nearest groves in search of haws, nuts, etc.; or if any orchard has been cultivated in the vicinity by some ancient settler, this is resorted to, and small parcels of its rare fruit purchased and taken home. Our fruit parties usually resorted to a grove about a mile distant, on the west, and returned after an hour or two of delightful rambling, with baskets laden with the delicious hawberry, a feast for many days. The pawpaw and persimmon did not flourish in our vicinity. They love the bottom lands of streams.

The groves at this season are indescribably charming. There is not in the large foliage that gorgeous variety which we find in the eastern forest. The trees wear a more sober and uniform complexion; but there are a thousand minuter beauties which touch the heart. A few flowers linger in the borders of the woodland and skirt the small streams. In the deeper recesses some sprightly ones are found, indicating by their vigor and freshness that they belong to the season of frost. Among these is one which I dearly love. It grows upon a tall stalk sparcely set with leaves, and forms near the top a beautiful shaft, studded with myriads of small flowers of the most exquisite hues and loveliness. They are like so many bright eyes looking gayly out into the pleasant world around. This flower does not belong to the deep groves, but is found in the little glades or openings in the woodside. And there, when October winds play among the leaves, and the bright sunshine pours through a sea of mist and smoke, into little nooks and corners, by decaying logs and upturned roots, where it has not gained admittance during the leafy reign of summer, this bright flower is seen nodding and dancing merrily in the breeze as if it rejoiced in the approaching gloom. The squirrel searches timidly about among the fallen leaves, making provision for the winter; and the hare, whom he often meets, skips by him, half in sport, half in earnest, seeking the tender twigs whereof to make her dinner. The ripened nuts dropping among the leaves often startle her from her contemplations, and drive her to seek refuge in the nearest clump of grass or bushes.

A Study in Black and White.

Query: Where Does the Little Girl Leave Off and the Pony Begin?

WEST PULLMAN SCHOOL, CHICAGO.

HON. FRANCIS G. BLAIR,
STATE SUPERINTENDENT,
DEAR MR. BLAIR:

I inclose some Arbor Day photographs.

We worked busily from 8:30 to 4:30.

We now have two School Foresters: Norman Schreul, aged 12, and Henry Konefsky, aged 14.

Planting the Trees.

We planted seventy Boston ivys and ten trees. Each tree was named and given into the charge of a grammar grade room. The ivys were given to the primaries. There are about 1,000 children in the school.

The trees were named: Susan B. Anthony; Dr. Ella Flagg Young; Jane Addams; Lucy Stone Blackwell; Audubon; Linnaues; Theodore Roosevelt; William Jennings Bryan; Henry W. Longfellow; Robert Louis Stevenson.

I am sending you the little original poems by the pupils of the West Pullman Schools.

Cordially yours and with deepest esteem,

HARIETTE T. TREADWELL,
Principal.

NATURE POEMS BY EIGHTH GRADE PUPILS.

West Pullman Public Schools.

SLEIGH BELLS.

Listen to the sleigh bells ringing,
Listen to their merry singing,
Joyous winter time has come
With its merry, merry fun.

The glittering snow is falling fast,
And winter time has come at last;
Come on boys out and have some fun,
For joyous winter time has come.

—*Herbert Schneider.*

Reciting Original Arbor Day Poems.

TO A WILD ROSE.

O sweet Rose, O wild Rose,
  Of beauty most rare;
No harsh winds shall touch thee
  While under my care.

Soft winds will rock thee,
  To a sweet lullaby,
Bright stars will watch thee
  From out the blue sky.

I'll weave thee a bower
  Of sweet woodland green,
And crown thee with dew
  And thou shall be qu

ingwood.

AWAKENING OF SPRING.

Awaken, sweet little violet,
  For spring time now is here;
The air is filled with sweet perfume,
  And the world is full of cheer.

Awaken, awaken now I say,
  For the sunbeams call
  For the flowers all,
For it is spring today.

—*Nellie Miller.*

Singing an Arbor Day Song.

ON A FROSTY NIGHT.

Long 'ere the soft winds blow,
E'en 'mid the falling snow,
Songs of gay people are heard singing,
Their songs of joy are ringing;
And the woodlands old and gray,
Echo their answer across the forest way.

—*Louise Pritchett.*

AUTUMN.

Summer is gone, Autumn is here,
Harvest has come with all its cheer;
The birds are flying here and there,
And leaves are whirling in the air.

They are scampering all about,
For I can hear the old wind shout;
Romp about with all your might,
For the sun is full of light.

—*Margaret Messer.*

ODE TO THE SOUTH WIND.

Blow, South wind blow,
Blow, the breezes soft and low,
Blow the leaves and let them sway
At the close of this pleasant day.
Blow! Blow! soft and low,
Blow! the breezes to and fro.
Blow, South wind blow,
Rock the billows to and fro,

Searing the Tree's Scars with Pine Tar.

And the ship that skims,
Rocked by thy gentle whims.
Blow! Blow! soft and low,
Blow! the breezes to and fro.
Blow, South wind blow,
The dancing leaves like it so,
They dance about and enjoy their fun,
Like a child when he sees the rising sun.
Blow! Blow! soft and low,
Blow! the breezes to and fro.

—*Catherine Lieber, 6th Grade.*

IN MEADOWS GREEN.

In meadows green I wander'd,
Many hours I squander'd,
  Walking, dreaming, thinking;
Building castles in the air,
Made of diamonds, wond'rous fair.
While I lay beneath a tree,
Wond'rous thoughts did come to me.
—*Clarence Schultz.*

Preparing the Trees for Planting.

Poems by Second Grade Pupils.

HYACINTH.

The hyacinths are white and blue,
  They come in early spring,
And make the earth look bright
  And bring new joy to everything.
—*Albert Andrews, Age 8 Years.*

THE DAFFODIL.

Golden crowned daffodil
  Resting on my window sill,
You spread perfume so rare
  We smell your fragrance in the air.

IN MAY.

In the happy days of May
Around the flowers the children play.
Hear the happy voices ringing,
And the little birdies singing.
—*Catherine Martin, Age 7 Years.*

THE VIOLETS.

Violets are blue,
And their color is true.
I see them as I pass
In the green and yellow grass.
—*LaVerne Quinnell, Age 7 Years.*

THE HYACINTH.

Hyacinth, hyacinth, blooming so soon,
Welcoming Easter at the window of my room,
Spreading your fragrance far and near,
Hyacinth, hyacinth, you are so dear.

Come, come, Spring is here,
Hyacinth so very dear;
Lift your pretty pink flower,
That we gave a shower.
—*Elizabeth Haberstein, Age 7 Years.*

The Black Dirt Brigade.

FLOWERS.

Come, come, pretty flowers
That make the happy hours,
Spring will be here in a minute,
And I want you to be in it.
—*Bennett Lewis, Age 7 Years.*

SPRING FLOWERS.

We have flowers of red, white and blue,
And yellow too,
They come up in the Spring,
And give joy to everything.
—*Ruth Larson, Age 7 Years.*

THE VIOLETS.

When the snow has passed away,
Little violets come to stay.
In the meadow green and wide,
There they're growing side by side.
—*Katharine Thompson, Age 8 Years.*

THE DAFFODILS.

Beautiful golden daffodil,
  You come in early spring,
And nod your head at every one,
  "Good morning, sweet," you sing.
—*Leslie Piel, Age 8 Years.*

VIOLETS.

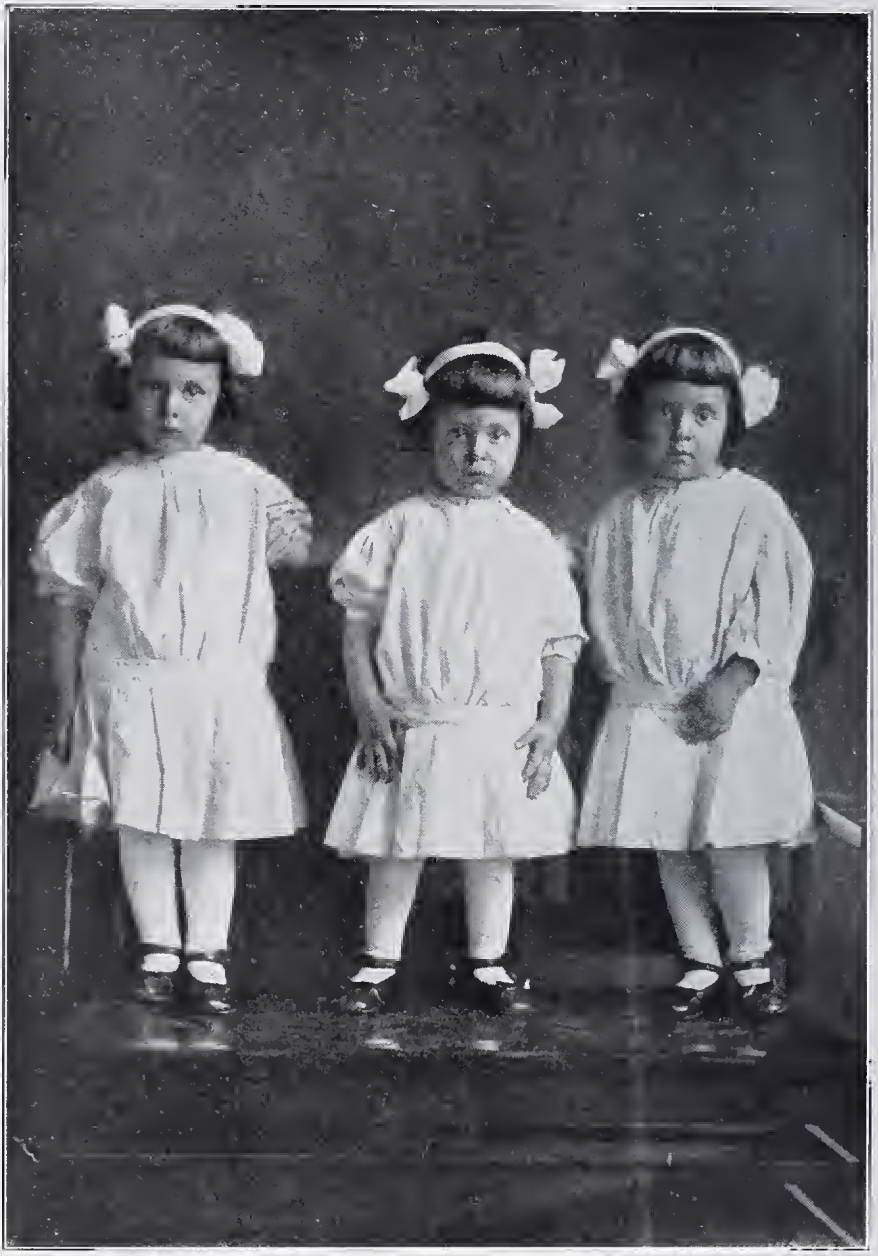
Down by the river where the violets grow,
That is where I like to go,
In the spring time from their beds
Out they pop their little heads,
Nodding as if to say,
"Come pick me before you go away."
—*Albert Andrews, Age 8 Years.*

THE DAFFODIL.

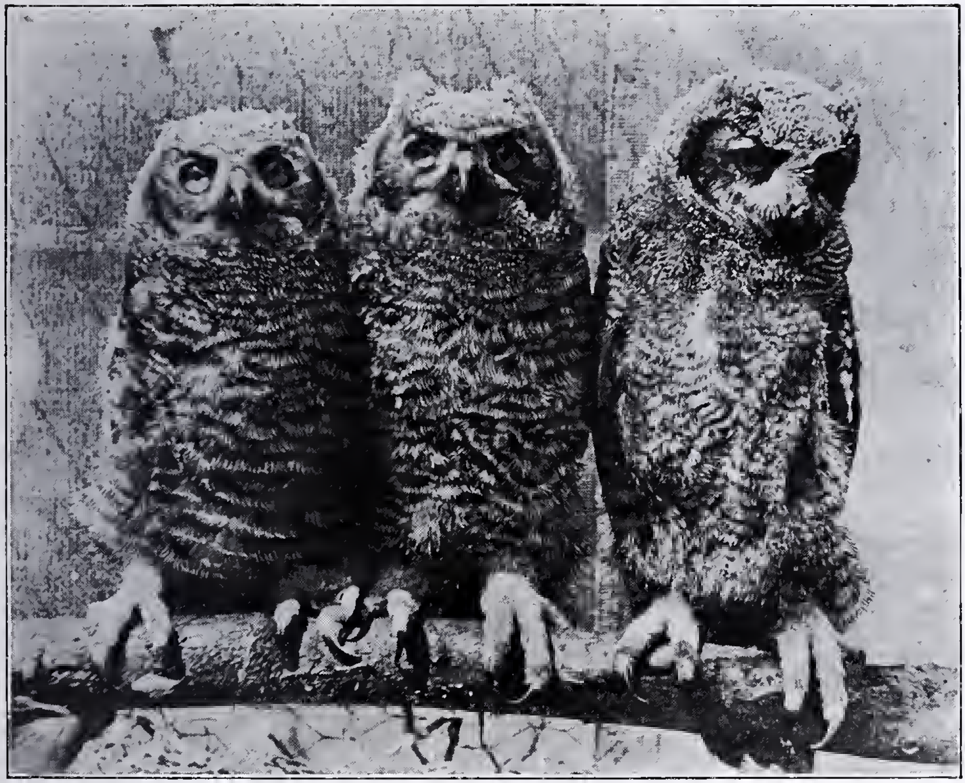
Pretty little daffodil,
  You come in early spring,
Dancing in the sunshine,
  Happiness you bring.
—*Carl Nelson, Age 7 Years.*

THE HYACINTH.

The hyacinth has a pretty head,
He stood up in his little bed,
"I never have been dead,
I only went to sleep," he said.
—*Bennett Lewis, Age 7 Years.*



Triplets.



Triplets.

TWO SETS OF TRIPLETS.

In the last Arbor and Bird Day Annual we presented two sets of twins. This year we present two sets of triplets. These fine baby owls were found in a nest 80 feet above the ground in a sycamore tree which stands on the bank of the Okaw River.

The three beautiful girl triplets were born in a Missouri home. As the picture shows, they are beautiful, healthy girls. At the St. Louis Baby Show, held in the autumn of 1912, they were one of the most attractive features.

THE LURE OF SPRING.

How the fields and woodlands lure us
When the birds are on the wing,
And the meadow lark's clear calling
Tells of earth's awakening;
When the maple trees are budding,
Waiving willows flaunt their bloom,
While the fields are bathed in sunshine
That has banished winter's gloom.

When on hillsides are the wild-flowers;
Fairest harbingers of spring.
And the orchard spreads its splendor
In a wealth of blossoming.
How the heart beats in a rapture
At the glory that is rife,
When the earth is stirred and pulsing
With the mystery of life!

—*George B. Staff, In Nature and Culture.*

Franklin, Ind.

This is one of the many standard country schools of McLean County. The State Country School Supervisor is nailing up label. These beautiful trees and large open grounds make up for the plain architecture of the building.

BIRDS AND CORN.

T. L. Hankinson, Eastern Illinois State Normal School.

One very interesting and important way of studying living things is to consider them with reference to their surroundings. A comparatively simple method of doing work of this kind and one that is very adaptable to biology or nature work in schools, is to select some one species and to consider all the factors in its natural environment that affect it or that it affects. From such a well-defined starting point, one is lead in his studies to many fields of science, each of which must necessarily be involved in a proper understanding of the relation of the selected kind of organism to its surroundings.

For an Illinois student, especially one in a country school, the corn plant, it seems to me, is an excellent living object for this kind of investigation. There is no reason why some very good nature work might not be done in elementary and other schools by considering how this plant is related to the air enveloping it, to the soil, to light, to other plants about it, to animal life, and to various other features of its surroundings.

The corn plant for this work may be undesirable in one respect. It is not a native organism, and the cornfield is a very artificial animal habitat. But such prejudices should weigh little in view of the great importance of this plant to us and the desirability of more knowledge of its life and surroundings and in view of the fact that this is the most extensive type of animal habitat in our State. That well-known student and authority on the biota of Illinois, Dr. S. A. Forbes, says: "The corn plant is so conspicuous a feature in the agriculture, and hence in the civilization, of Illinois that it must always be an attractive subject of study to the youth of the State, and suitable in a multitude of cases for use in the public schools."

This paper will be limited to an important part of the corn plant's environment, namely, bird life. This is seldom conspicuous in a cornfield, but, with proper search, some birds can be found at any time of the year. In winter the species best represented in Coles County, Illinois, according to my observations, are: The common crow, mourning dove, bob-white or quail, tree sparrow, junco, and flicker. A number of others are frequently seen; for example, the marsh hawk, cardinal, horned lark, downy woodpecker, and song sparrow.

At ploughing time in spring, the freshly turned soil makes an attractive feeding ground for crows, blackbirds and some others. When seedlings are up, crows visit the cornfields, often in considerable numbers. As the corn grows, birds increase in numbers till in late summer and early fall, when the plants have reached their full height. The fields then have their largest bird population. Some species that are at that time rather frequently found in cornfields are: Crow blackbird, red-wing blackbird, cow-bird, meadow-lark, crow, bob-white, mourning dove, English sparrow, field sparrow, goldfinch, white-throated sparrow, horned lark, myrtle warbler, barn swallow, night hawk, chimney swift, and marsh hawk.

After this brief survey of the cornfield's bird life, let us consider some of the reasons for the association of birds with corn and some of the ways that this plant association, which we call a cornfield, is related to bird life in general, including species, habitually found in neighboring habitats, like grass lands, bush and weed patches, woodlands and so on.

Birds may frequent a cornfield for the seclusion it offers, but the principal reason why they visit it is undoubtedly the food for them it contains. This is chiefly in the form of insects, weed seeds, mice, and the corn itself. Dr. S. A. Forbes stated in 1909 that there are 225 species of insects attracted to the corn plant in the United States. Probably all of these are fed upon to some extent by birds. We will confine our attention to some of the more important of these insects.

The *chinch bug,* possibly on account of its bad odor, has few bird enemies. One of these is the quail or bob-white. According to F. M. Webster, of the Bureau of Entomology, this bird is the only one that devours any considerable number of chinch bugs. There are some other birds that eat chinch bugs to a limited extent. These are: Prairie chicken, red-wing blackbird, meadow-lark, cat-bird, brown thrasher, house wren, tree swallow, and horned lark.

Cutworms are well known corn enemies, doing their damage to young plants through eating them off close to the ground during the insect's nocturnal wanderings. Many birds feed upon them. Meadow-larks are especially useful in this way. Crow blackbirds pay for much of the corn they eat by eating cutworms. At one time thirty-one of these birds were examined as to their food; nineteen of them had fed upon cutworms; twenty-two were in the stomach of one blackbird. Dr. Forbes found that the robin eats cutworms extensively in early spring. Screech owls take them in important numbers. Their nocturnal habits give them an especial advantage in searching for cutworms. The crow also eats them and feeds them to its young. Other birds known to destroy cutworms are: Red-wing blackbird, most, if not all, of our native sparrows that live in the open fields during the warm season, the horned lark, and the bob-white.

Grub worms or white grubs do much damage to the roots of corn. They or their adult forms, which are May beetles, are known to be fed upon by the following birds: Crow, crow blackbird, meadow-lark, a few woodpeckers, robin, cat-bird, brown thrasher, some small thrushes, a few hawks, the screech owl, nighthawk, kingbird, and horned lark. The

Two Corn-eating Insects, a Long-horned and a Short-horned Grasshopper.

crow is very beneficial through eating grub worms. Their frequent visits to freshly ploughed ground is thought to be due to their liking for these insects. They will also probe about the roots of plants and into sod for the white grubs.

Grasshoppers are often very destructive to corn and it is a common thing to see many leaves of the plants at the edges of the fields much riddled with holes made by the insects. The husks when eaten away give molds a chance to grow on the tender kernels. All of the insectivorous birds found about cornfields undoubtedly take grasshoppers to some extent. "When abundant, they are to the bird what bread is to man." Meadow-larks are probably the greatest grasshopper destroyers of all our birds, but many are eaten by crows, blackbirds, robins, sparrow hawks, and screech owls.

Wireworms, which injure roots and lower portions of the stalks of corn plants are frequently taken by birds in their adult condition known as click beetles. Dr. Forbes found seventeen species of birds that feed upon these beetles.

Corn root lice are indirectly limited in numbers, in all probability, by birds that eat ants. The ant that is so abundant in our cornfields and upon which the root louse appears to be entirely dependent, is eaten extensively by some birds, like the flicker, nighthawk, chimney swift, swallows, and the kingbird.

The *army worm* is at times very destructive to corn when great numbers of them move over the fields feeding on the tissues of corn plants. Meadow-larks, crow blackbirds, cow-birds, bob-whites, and some native sparrows are known to eat these insects. Dr. Forbes found many of them in the stomachs of thirty-three meadow-larks that he studied.

Through destroying insects, birds undoubtedly befriend the corn plant, but they do some harm by eating insects that are beneficial to the plant, like ground beetles, which destroy cutworms and grasshoppers, chinch bugs, and a few other insects detrimental to the plant. Robber flies, that are so common about cornfields in early autumn, prey upon grasshoppers. They are fed upon by kingbirds. There are many useful parasitic insects that help to keep in check probably every insect enemy of corn. Many of these are eaten by birds. The amount of harm done by birds through feeding upon beneficial insects is a subject that needs much more investigation.

Corn plants are commonly associated with a number of other kinds of plants, which, on account of their usefulness to man, are called weeds. These compete with the cultivated plants for food and interfere with them in other ways, so that, as is well known, the corn plants do not make proper development. Anything that decreases the number of these weeds will, of course, benefit the corn. Whether or not birds are instrumental in any important degree in this way, is a subject that needs much more critical study than it has received. Birds take many weed seeds for food and destroy many of them by their digestive processes, but when we consider how many seeds the plants produce, it seems to the writer that there would still be enough weed seeds left to germinate in every favorable place if the birds destroyed many times as many as they

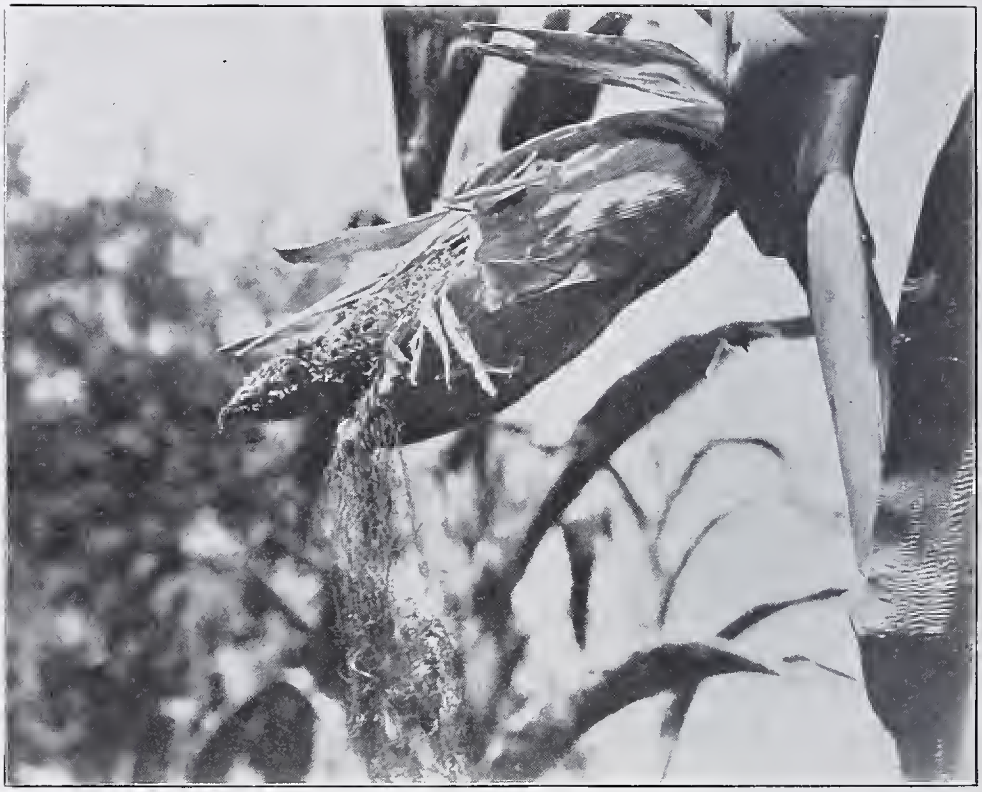
A Long-horned Grasshopper Feeding on an Ear of Corn.

do destroy. Some of our important seed eaters are our native sparrows, especially those like tree sparrows that are with us through the winter, the English sparrow, the goldfinch, cardinal, mourning dove, bob-white, horned lark, and the blackbirds. Two of the most notable weed-seed destroyers are the mourning dove and the bob-white. In a stomach of the latter, as many as 500 seeds of ragweed have been found. Four thousand sixteen pigeon grass seeds have been taken from a single mourning dove's stomach.

There are some small mammals that have an important relation to corn plants through feeding upon them. These are: The white-footed prairie mouse, the house mouse, the prairie vole, and the striped gopher. According to Mr. F. E. Wood's studies of the mammals of Champaign County, the white-footed prairie mouse is the only one that seems to be generally distributed through cornfields. The others are found chiefly near the edges of the fields. When corn is shocked, the two species of mice mentioned and the vole may do much damage through eating the grain. The striped gopher was found by Mr. Wood to dig up sprouting kernels shortly after they were planted. All of these mammals are destroyed by hawks and owls, and the mice and voles are killed by shrikes, crows, and to some extent by blackbirds. Shrikes are persistent mousers. When corn is being husked in the shock, they will follow the huskers to pounce upon the mice that scamper from the shocks when they are overturned.

Birds may produce an indirect effect on corn through the destruction of or the interference with each other. Bob-whites are destroyed by some hawks and owls. Crows eat quails' eggs. Shrikes kill small birds like tree sparrows and goldfinches.

Birds influence corn growth by feeding upon the corn plants. Crows have brought themselves into general disrepute by pulling up young corn plants. It is probable that the damage done to the plants in this way has been overestimated by agriculturists. Crows have been shot apparently eating young corn, and in their stomachs only grub worms have been found. Crow blackbirds and red-wing blackbirds both do much damage to corn crops by feeding on the soft unripened kernels in late summer and early fall. One of those large flocks so often seen at this time of year must do much damage when it alights in a cornfield. It is known that one blackbird will eat about two ounces of food in a day. At that rate there are flocks large enough to use up a ton of grain in this time. The birds tear away the husks, exposing commonly about a third of the kernels. The rest of the ear is very apt to mold, due to the collection and germination of fungus spores on the part of the ear left bare by the birds. More corn than is actually consumed by the birds is thus destroyed. I examined ninety hills of corn in a part of a field where blackbirds had been feeding. There were 169 ears on these, and eighty-nine of them had their husks partly torn away by the birds. It is easy to tell the work of birds from that of grasshoppers. In the former case the husks are stripped away, and the detached part is left in shreds. Grasshoppers eat away the husks clean, as a rule, leaving no dangling portions. When we consider the amount of injury produced by blackbirds to this important crop, we must not forget that it is done for



Ear of Corn Torn Open by Blackbirds.

a short period each year. During the rest of the time, the birds work in favor of the crop chiefly by eating destructive insects. Crows will also tear away husks to get at the corn on the stalk, and the English sparrow is said to do the same thing, but they probably feed only upon kernels exposed by some of the larger and stronger birds.

From the facts here presented concerning birds and corn and from many others, there can be no doubt but that our native birds do much to make corn such a successful crop for us. They have what is seemingly a greater value than this by giving life and cheerfulness to the otherwise quite desolate cornfields, making the lives of the many human dwellers of the corn lands more enjoyable. For these reasons, it is hoped that the welfare of the farm birds will be given more attention and that at least a desultory study be made of their interesting ways by every intelligent farmer.

WE KNOW NOT.

BY JOHN FRANCIS BECKWITH.

I have hung my guns on the corner rack,
And never again shall I follow
The call of the wild and the lonely track
Through the wood-clad mountain hollow.

The autumn had tinted the shelving side
Where leafless branches were sighing,
And birds of passage had gone with the tide
Of a summer in glory dying.

I had followed a trail—but it matters not,
It was bigger game I was hunting;
But the caveman in me fired a shot
At a little snow-white bunting.

He fell to the ground with broken wing,
A blood-stained, fluttering feather,
And never, never again would he sing
O'er meadow and lilac heather.

I lifted him up, and I heard the call
Of his mate from a cluster of willows;
And I thought of the nest with its hungry small
And the north-cold, wintry billows.

For never, never again would he fly
With buds and the young grass springing;
Wing-shot and still, on the nest he would lie—
And who would the food be bringing?

That's why I've hung my guns on the rack,
That's why I shall always remember
We do not know when the guns will crack
Nor the coming of life's December.

We know not the day till vesper rings,
And know not when summer is over;
Twilight may find us with broken wings
In a field of blossoming clover.

The Beauties of Nature.

GOOD LUCK.

This is the song the Brown Thrush flings
  Out of his thicket of roses;
Hark how it bubbles and rings,
  Mark how it closes:
        Luck, luck,
        What luck?
        Good enough for me,
        I'm alive, you see!
        Sun shining,
        No repining;
        Never borrow
        Idle sorrow;
        Drop it!
        Cover it up!
        Hold your cup!
        Joy will fill it,
        Don't spill it,
        Steady, be ready,
        Good luck!

—Henry Van Dyke.

TEACH ME THY MOOD.

Teach me thy cheerful mood, O robin dear;
Though the woods are bare and the landscape seer;
Though the world is shrouded in cold and gloom
And chill snowflakes fall where the flowers should bloom;
Though the sun is hidden by clouds of gray,
Give to me the joy of thy cheering lay.

Teach me to know thy cheer when skies are gray
And bright rays of hope have vanished quite away.
Ah, could I but know when the day seems long,
The wond'rous joy that throbs thy throat with song;
Could you lend to my mood thy cheering tone,
Within my soul that song would find its own.

—Hattie Washburn in Nature and Culture.

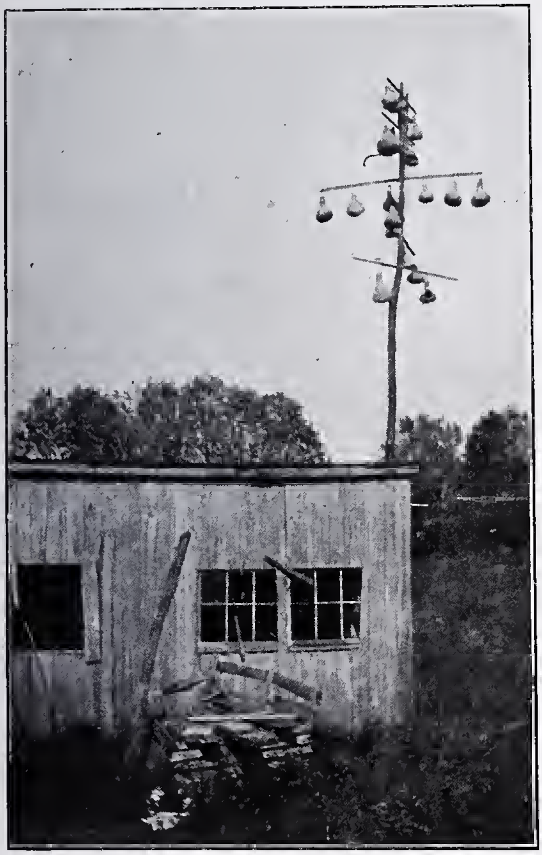
Goodwin, S. D.

Mr. Wren is singing while Jenny is in the house caring for the little ones.

Where Jenny Wren raised her three broods in one season.

NO RACE SUICIDE FOR JENNY WREN.

Mr. James R. Piercy, a farmer who gets something more out of his farm than mere corn and hogs, has made some interesting observations on the nesting and brooding habits of the wild birds which build every summer about his home. He was one of the first to discover that a common gourd makes an excellent birdhouse. He discovered the size of a hole that would admit a Jenny Wren and would not admit the destructive, fighting English sparrow. In this way he has gathered about him a number of families of these delightful little birds every summer. Here is the way he describes a certain discovery which he made with regard to the brooding habits of the Jenny Wren.



"The wren is the only bird which I have observed rearing more than one brood in the same place the same season. Some years ago a pair of wrens built in my window cap two nests about 10 inches apart and during the summer reared three broods. Two years ago they selected two of the gourds which I had hung in the trees about 20 feet apart. They built nests in these and reared three broods, using both gourds at the same time. Last season they had bad luck and raised but two broods. This, however, was not Jenny Wren's fault. The third brood was hatched when a violent wind storm blew the gourd from its attachment, killing the little brood within."

Mr. Piercy has found that a gourd hung in the sunshine will attract the blue-birds, but not if hung in the shade. Several pictures taken by him of the gourds as they appear in the trees are given herewith.

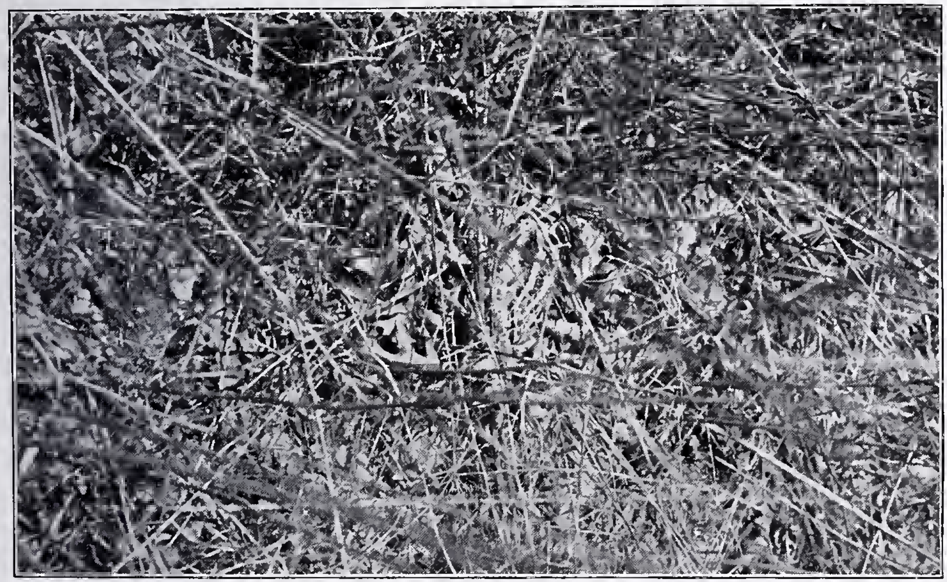
Mr. Piercy's home, showing many gourds in trees.

A gourd in the sunshine for a blue-bird's nest.

A DISAPPEARING ILLINOIS BIRD.

Elliot R. Downing, School of Education, University of Chicago.

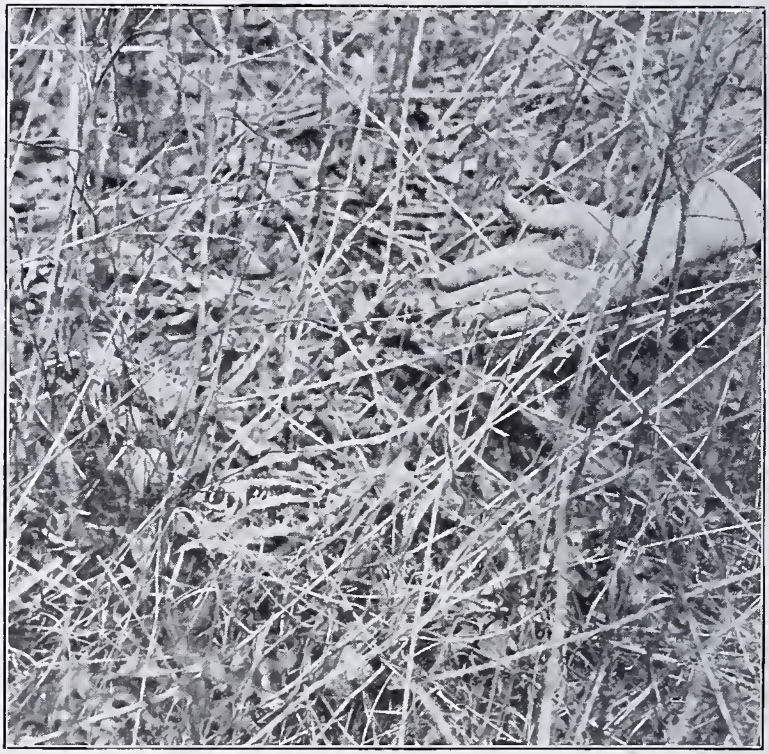
In the spring of 1912 a group of students were tramping through nearby woods when a woodcock flew from her nest almost under their feet. Two days later three of us went out to get photographs of the bird and her nest but found the nest with its one egg abandoned. One of our party located the woodcock on a second nest, after some searching, only a couple of rods from the site of the first nest. He pointed to the place where the bird was quietly sitting. Though we were then within 20 feet of the bird and he defined her exact location so that I knew my eyes were exploring the ground within a radius of a foot or two of the nest, yet for three or four minutes I was unable to see the bird. Finally I caught the glint of her beady eye. Then promptly I saw the outline of the animal whose color and markings harmonized so well with the dead leaves and dry grasses among which the nest was located.



The Bird Sitting Quietly.

We discreetly set up our camera at a respectful distance from the bird and made an exposure. Then we moved nearer and tried another. Again the camera was shifted to a more advantageous situation and the woodcock made no move to betray her presence. She was as rigid and immovable as if made of wood. Finally the front lens of the camera was brought within 20 inches of the bird's back and negatives were obtained. A hand was reached into the field of the camera while the instrument clicked. A day or two later another photographer succeeded in getting a negative of the bird with a finger actually touching her back. Nesting birds are proverbially loathe to leave their eggs even under severe provocation. This one certainly was. "Occasionally the woodcock will allow herself to be lifted from the nest by the hand, sometimes even scrambling back as soon as released" (Borrows).

It was an incautious, sudden movement of the focusing cloth that at last sent this bird off with a rush and enabled us to get the picture of the nest with its two eggs. On successive days two more eggs were laid and all were presumably successfully hatched. The young of the woodcock are ready to run about and forage some as soon as they are out of the shell. I watched the nest as closely as school duties would permit, in the hopes I might catch sight of the young. But on one day there were four eggs; on the next only fragments of shells. I surmised the young birds had been led off to the feeding grounds. This nest was at Riverside, in the open grassy border of a field then in process of plowing. The woods bordering the Desplaines River began within a stone's throw of the nest.



The Hand and the Nest.

Such moist woodlands are the favorite haunts of this bird, for it feeds on the worms that it captures in the soft mud and under the decaying leaves. The bill is nearly 3 inches long, mobile at the tip and sensitive—a delicate probe with which to feel about in the mellow earth. The bill is thrust into the ground the full length in its search for food. The holes thus made are usually in groups and these borings are characteristic indications of the presence of the birds. Feeding is usually done at night or at dusk. During the day the birds keep to cover. Earth worms are not the only food. Insect larvæ, grubs of various sorts, and adult insects captured on the surface add to the variety of the diet and occasionally make up the major part of the food.

The bird is somewhat larger than a robin. The ground color is brown to buff with blotches and stripes of gray and black. There are three black horizontal bars on the back of the head. The eyes are set far back and well up toward the top of the head, giving the bird an odd expression. The underparts are light brown. The legs are rather short. The nest is merely a collection of a few dry leaves in some slight depression on the ground. The eggs are an inch and a half in length by slightly more than an inch in transverse diameter. They taper sharply. In this nest the ground color of the eggs was ashy gray with pale brown dots.

The Nest and Two Eggs.

The woodcock may be expected to arrive early in the spring, just as soon as the frost is out of the ground sufficiently for him to begin probing for food. They nest early. In fact, in the southern states, nesting may begin in late December or early January. It continues as the species advances farther north until May. About the last of March is the average time for the nesting to begin in the region of Chicago. In all likelihood the birds south of the Ohio Valley do not move far, if at all, from their nesting region during the winter. Those birds that nest in the North, of course, are driven south by the winter's rigors. The gulf states as far west as Texas are the winter residence of these migrants. Summer sees them moving northward into Canada, as far west as Colorado, Kansas, Dakota and even up into Alberta. They nest practically throughout their range.

They remain north about their feeding grounds until the ground freezes. It is when there is a sudden onset of freezing weather over an extensive area in the North that the marked "fall flights" occur. Then flocks of the birds appear in marshy woodlands or even in the open fields searching for food. The migration occurs at night so suddenly, some morning the low grounds are alive with these busy birds feeding in the dim dawn. It is during these flights that the hunters bag them. Thus Arthur T. Wayne states that at Mount Pleasant, South Carolina, two thousand woodcock were killed in one day. "Mr. James H. Rice, Jr., Secretary of the Audubon Society of South Carolina, tells me that at that time he saw in Georgetown a line of wheelbarrows loaded with woodcock brought into the market by negroes" (Forbush). Fortunately, many of the states limit the number one man may shoot and confine the shooting to a short period. In spite of these precautions the woodcock is a disappearing bird. In their migrations they fly low and many are killed by flying against wire fences, telegraph and telephone wires. Then, too, the drainage of swamp lands for agricultural purposes is continually decreasing both their feeding grounds and nesting sites.

A Clearer View.

BIRD STUDY.

W. H. Wisman, New Paris, Ohio.

A Winter Feeding Ground.

In order to carry on the work of bird study with any degree of success, experience has taught me that the subject must continually be kept before the pupils in all of its phases. This means actual work among the birds, with eyes sharpened for every movement and ears tuned to every sound.

The first essential, I think, is for the pupil to know the bird by sight—that is, at close range—and to be able to give a minute description, paying attention to details in markings, especially in cases where distinctive markings determine the species.

Our work in autumn consists in a sharp lookout for the warblers that are returning toward the Southland at the beginning of the school term.

This requires careful observation, and pupils are encouraged to be watchful at this time and report any small bird they may be able to find on their way to or from school, or at home. A record is kept, and pupils are urged to compete for the longest list of different species.

Later in the season, when the leaves are well off the trees, we start a nest-hunting contest, the object being to see who can find the greatest number of nests in a specified time. Samples of nests are secured and put up in the schoolroom.

When cold weather comes the question of food supply is considered. Shelters for the birds are constructed, and feeding places are prepared.

A Little More Sheltered.

One method is to place a feeding board outside a south window, and fastening a good-sized branch of a tree outside the window, upon which pieces of suet are fastened. The remains of the children's lunches, together with seeds, kernels of nuts, etc., are placed upon the board, and birds soon learn to come to the banquet prepared for them. The pupils are urged to go home and do likewise.

Monthly bird lists are kept, showing the kinds of birds that may be seen each month, and pupils are required to keep note books in which anything of interest may be noted.

In the spring the question of housing the birds is considered, and pupils are taught to construct simple bird houses, and all are interested in placing these boxes about their homes.

In connection with this field work, attention is given to the literature upon this subject. Scrap books are kept, and any article relating to birds found in papers or magazines is clipped and pasted in this book.

We have in the schoolroom over one hundred and fifty pictures in colors of the birds to be found in this section of the State, and using these as a basis, I give frequent "lectures" on the habits or any other points of interest concerning these birds.

The pupils are very enthusiastic in the work, and the influence has not only extended throughout the entire district, but other teachers and pupils in the surrounding districts have caught the spirit and much is being done along this line throughout the township.—*Courtesy of Nature and Culture.*

"A rose to the living is more
  Than sumptuous wreaths to the dead.
In filling life's infinite store
A rose to the living is more
If graciously given before
  The departing spirit has fled—
A rose to the living is more
  Than sumptuous wreaths to the dead."

—*Selected.*

How good to lie a little while
  And look up through the tree!
The sky is like a kind big smile
  Bent sweetly over me.

—*Abbie Farwell Brown.*

BLESSED BE NATURE.

Blessed be nature—beautiful, life-enkindling nature! Blessed be the thousand arts by which she appeals to our love and reverence. Bud, leaf, and tree, raging tempest and gentle life-distilling dew—fathomless ocean and clear, moss-bound spring—blessed are ye all. And thrice-blessed and adored be the wisdom which has enabled us to see all these, and feel ourselves partakers of their being, their beauty, and their power.

Eliza W. Farnham.

THE RAISING OF PHEASANTS.

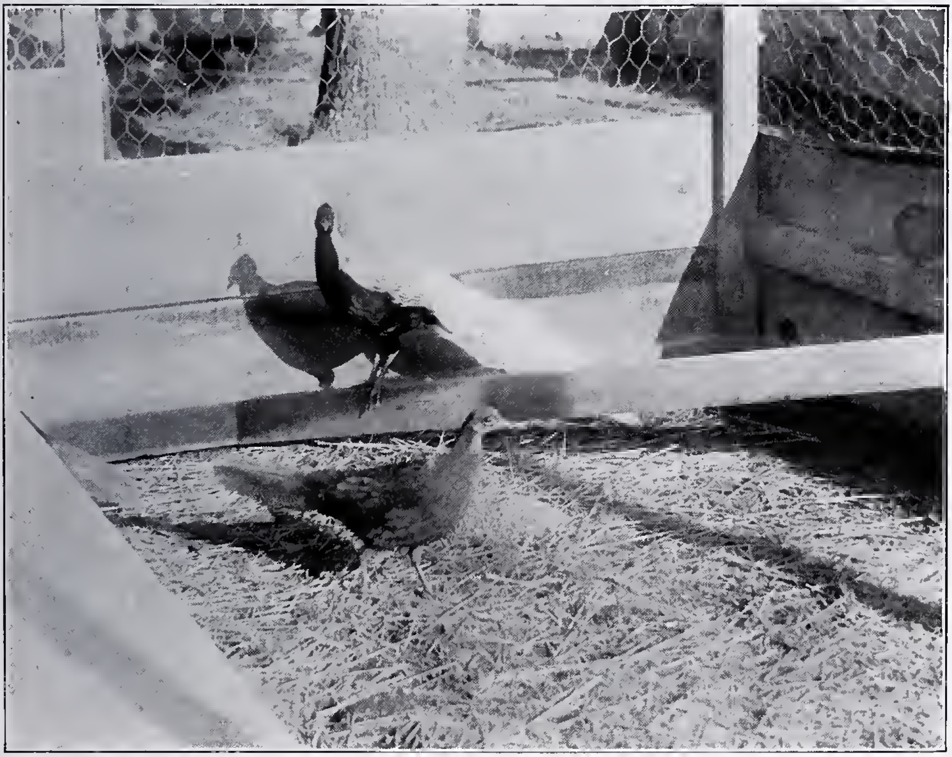
Rebecca H. Kauffman, Oregon, Illinois.

"The raising of pheasants, a comparatively new industry, has begun to engage attention in the United States, and propagating ventures, ranging from a single pen with one or two birds to the pheasantry of many acres and thousands of birds, are scattered throughout the states. The countries of the Old World long ago learned the lessons that experience is now teaching us, and today England has more game than sections of equal area in the United States. Wasteful methods of the past have resulted in the adoption of stringent restrictions on trade in game.

[Photograph by Mrs. La Verne W. Noyes.]
Among the Pines in Ogle County, Illinois.

"It is essential to know the different kinds of pheasants, or at least a few of them, in order to have a clear and comprehensive idea of their propagation. The Ringneck pheasant, a native of China, has a broad white ring around the neck. It is often called the Chinese pheasant, China pheasant, Chinese Ringneck, Denny pheasant and Oregon pheasant, and may even be known by several other names in different sections of the country. The Ringneck adult male averages 30 inches in length; wing, 10 inches; tail, from 18 to 20 inches. The general color is coppery chestnut, with bright purple and bronze reflections; the neck is metallic blue and the tail long and pointed, with darker crossbars. The female is mottled brown, varied with dusky brown. The eggs are buff or greenish-buff. The long tail feathers one often sees adorning a woman's hat and the small feathers are also used for hat ornamentation.

"The failure of many efforts to add pheasants to our fauna is due largely to insufficient knowledge of their habits and their normal environment. It is useless to undertake to acclimate a bird in a region differing widely in climatic and physical conditions from those to which it has been accustomed. An attempt to introduce into one of the prairie states the common blood pheasant which inhabits the Himalayas at an elevation of from 10,000 to 14,000 feet would result in failure. If birds are liberated in the wilds they must be provided with reserve food and shelter until they are able to care for themselves, which may take several years. In Oregon the Ringnecks at first came regularly to farmyards to feed with the domestic fowls; and the English Ringnecks liberated on Grand Island, Michigan, were driven back by severe weather to the pens from which they had been allowed to escape a few months before. If pheasants are imported for stocking preserves suitable coverts should



Silver Pheasants.

be prepared for them. In their native country pheasants frequent the margins of woods, coming into open tracts in search of food and retreating into thick undergrowth when alarmed. An ideal country for pheasants is one containing small groves with underbrush and high grass between the trees, thorny hedges, berry-growing shrubs, water overgrown with reeds, and occasional pastures, meadows and cultivated grainfields. Bleak mountains, dry sandy wastes and thick woods are not normally frequented by pheasants; nor do they seek pines, except for protection. A small grove of mixed evergreen and deciduous trees on the southern slope of a hill furnishes favorable shelter.

Young English Pheasants Feeding.

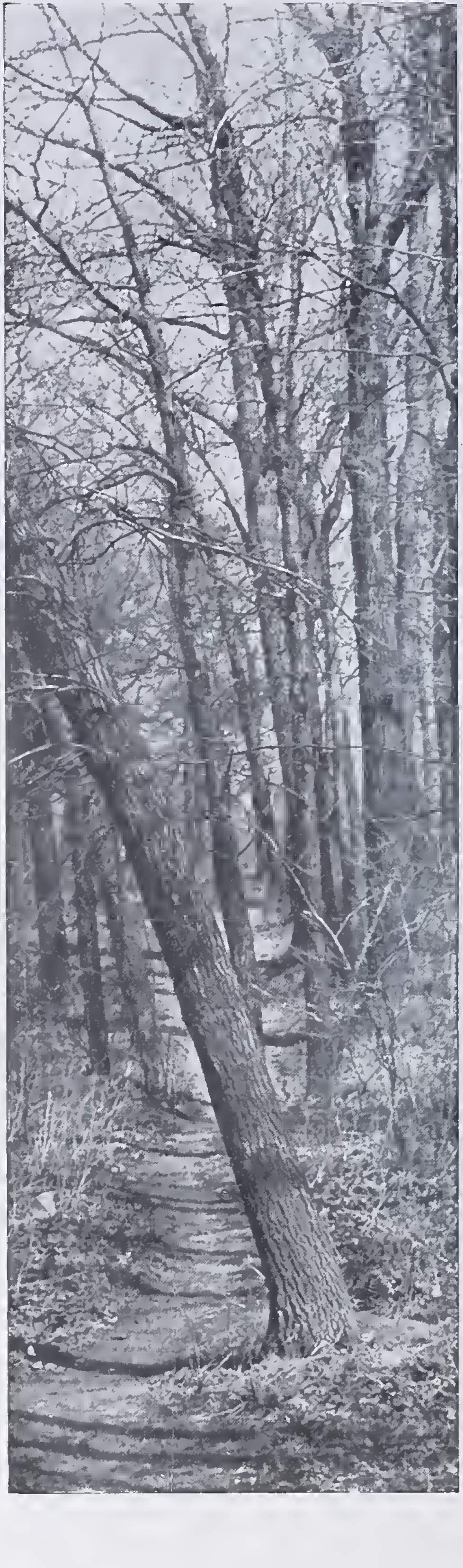
"The caretaker watches their needs carefully, and pheasants should be attended, as far as possible, by one person. It is advisable for the attendant to wear the same clothes when entering the pen, for pheasants are frightened by anything unfamiliar. English gamekeepers are accustomed to announce their approach by whistling, whether the birds are in the pens or in the open. I know of a pheasant-raiser who always taps her fork on the china feeding-dish to call the young birds together at their feeding-time. If the pheasants are not intended for game covers it is often advantageous to tame them by gentle treatment. When care and consideration are shown and occasional delicacies are fed they will respond and will readily learn to eat from the hand. In addition to the pleasure this confidence in humans gives the attendant it diminishes the danger of losses resulting from the birds' dashing themselves in fright against the netting which surrounds the pens.

"At the sides of the yards are placed little troughs into which running water is conveyed. Because of ignorance as to the proper food for the birds pheasant-raisers are often disappointed or discouraged in the results of their efforts. Pheasants are small feeders, and there is greater danger of overfeeding than of underfeeding them. Overfeeding is productive of disease, and in order to guard against it the attendant should sprinkle a little food on the ground, wait for that to be eaten, and then sprinkle more, until the birds lose their eagerness, when feeding should be discontinued. The proper quantity of food for each pen may thus be ascertained. Pheasants are omnivorous, and since variety is beneficial, almost any edible substance may be fed—grain of all kinds, finely chopped meat, cooked cereals, table scraps, boiled potatoes, boiled rice, apples, turnips, rose hips, the tubers of Jerusalem artichokes and finely chopped green food, such as lettuce, grass, cabbage, onion tops, garlic and chickweed. Green food is important, and should constantly be supplied, even if it must be raised under glass. All green food must be chopped fine, for otherwise the birds are likely to become crop-bound. Ground bone is excellent. Seeds of various weeds may be furnished. Hay seed is also a very desirable feed. Chestnuts, especially wormy ones, add to the variety, and are doubtless much easier to obtain. Grit should be supplied, and charcoal and cracked oyster shells are of great service. The food should not be thrown on the ground, but should be put into flat tin or enameled dishes, which should be scalded daily to prevent disease. Water should be furnished freely, but must not be allowed to become dirty or stale, or to remain in the sun. Running water in the pen is suggested as the best means of providing fresh water.

"There is a marked difference between the feeding of adult pheasants and their young. Never feed more than the birds will eat up clean. In selecting food, two things must be remembered: that variety tempts appetite and that a gradual transition from soft to hard food is required. Even seed-eating birds, such as sparrows and other finches, feed their young at first almost exclusively on soft-bodied insects. Young pheasants pick up many insects in the rearing field, but the supply must be supplemented. It is customary to depend on ants' eggs, maggots, meal worms, or finely ground meat. Almost any soft-bodied insects, if they could be secured in sufficient quantity, would satisfy the need. Ants' eggs are much relished by young pheasants, but unless they can be obtained throughout the season it is better not to use them at all, for the little chicks will reject the other food after having been fed on them. Meal worms are very satisfactory, but are difficult to raise in sufficient quantity."

[The foregoing is part of an article on "The Recall of the Pheasant," by M. M. Woodruff, which appeared a year ago in *The Country Gentleman.*]

Golden, Amherst, Silver, Reeves and English Pheasant Cocks.

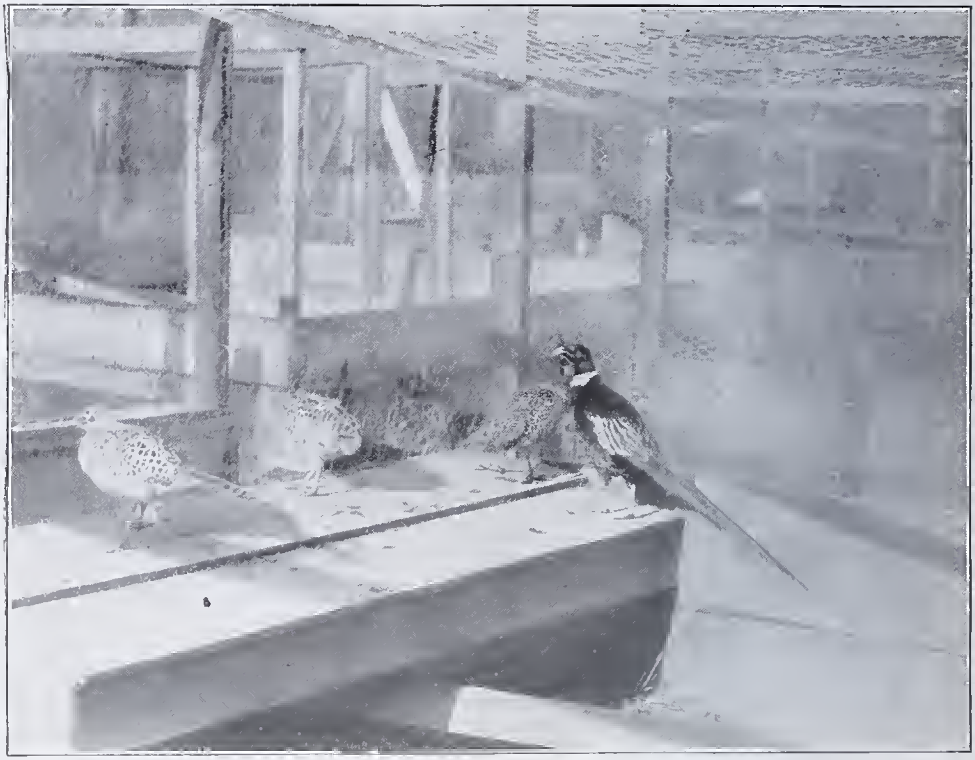


Under the progressive leadership and management of Dr. John A. Wheeler, the State Game Commissioner, Illinois now heads the states in the propagation of game. Dr. Wheeler has been instrumental in securing the adoption of much important legislation for the protection of game, and has systematized the workings of the game department. Game wardens now patrol every county, and the license, which costs the hunter $1.00 per year, and the fines, have made the State Game Department self-supporting. At the State Game Farm in Sangamon County are propagated these fast-dying game birds, besides others to take their places. For several seasons past, Mr. C. H. Whitman, of Mount Morris, the chief of the game wardens of Ogle County, has received shipments of quail and pheasants from the State Game Preserve and distributed them over the county to individuals who wish to take care of them till late spring, and then set them free upon their farms or land. During the month of March one year I took two pairs of quail from one of these shipments. We released them later, in May, in the timber on Liberty Hill not far from our home, where they would be easily able to find shelter, food and water. One morning in September of the next year, we were surprised and delighted, while at breakfast, by seeing a bevy of quail, twenty at least, making their way across our lawn. After picking among the leaves along the fence, and the vines on it, for a little while, they disappeared on the river side among the deep grass. In experimenting as to the kinds of food the quail preferred to eat while they were housed till spring weather would come, I found they were most fond of the seeds of fresh apples—and apples at that time were selling at 60 cents a peck!—and they evinced a special fondness for canned "black cap" raspberries also, another expensive article of diet just then.

Through the infinite care of the State Game Commissioner of the State of Oregon, Mr. W. L. Finley, the Chinese pheasant has established itself in that State—indeed, one might say that it is domesticated there. While we were staying last year in the Hood River Valley, Oregon, we would frequently see pairs of these handsome creatures, sometimes along the fringe of forest trees left standing by the apple orchards, sometimes in an open "clearing" not yet planted, sometimes in the shrubby growth along the slopes of the Cascade Mountains—even among the giant firs, sugar pines and dogwoods themselves, and upon the declivitous banks of the rocky, rushing Hood River itself.

Early in March of last year I heard that a pair of Chinese pheasants were getting their evening and morning meals and "putting up over night" with a flock of chickens (as it is common for them to do during the bad weather of winter), belonging to a family on "The Heights," which is the elevation overlooking the Columbia River where the Hood River flows into it, and where are many homes of the people of the city of Hood River. I lost no time in going up to see these pheasants. About 8:00 o'clock they would stray off among the bushes down the side of the canyon through which the Hood River flows, remain away all day, and return at dusk. I sauntered after them one morning, over a most picturesque mountain way, by the reservoir which supplies the water to the

O.-W. R. & N. Company—Oregon and Washington Railway and Navigation Company—the cold storage apple plants, and other business concerns of the region. The path by the side of the ditch, which carried the water into the reservoir from Indian Creek and fed by the never-failing snows of Mount Hood, was a veritable "Lovers' Lane" overhung by low-branching evergreens and vines and edged with luxuriant ferns, vines and mosses. It was small wonder the pheasants delighted to wander along this path, noting the desirable places in which to rear their spring brood. Near the end of my morning stroll I was rewarded by hearing (though I did not see the bird itself at this time) the twitter of the bush-tit, which is a permanent resident of the State of Oregon, and one of the birds that build a pouchlike nest.



Chinese Ring-necked Pheasants.

Last October, shortly after our return here to our former home at Oregon, Illinois, I wrote Dr. Wheeler asking if he could send me a pair of Chinese pheasants for starting them in our neighborhood in Ogle County. Promptly there came from him a pair of English pheasants—beauties they were!—also Ringneck pheasants these are, and both kinds are being introduced into Illinois. We set them free by the edge of a brook near some timber by a farmhouse, the owner of the farm promising cordially to keep a watch as to their care. Then we placed a request to hunters in the Mound Morris and Oregon newspapers to keep from shooting them, they having been liberated between these two towns. Until recently, there were a few native pheasants in our neighborhood. Perhaps some of the sportsmen could tell what became of them! Guns "go off," in spite of the vigilance of the wardens!

In the recent Land Show in Chicago at the Coliseum was a large and fine exhibit of Ringnecks raised by game fanciers at Oak Park.

Col. F. O. Lowden last spring procured from the State Game Commissioner, fifty eggs of the English pheasant and set them under poultry hens and raised them in coops, meaning later to have them run over the farms of his large estate of Sinnissippi Farm, along Rock River, three miles below the city of Oregon. They are thriving finely, and will be a most attractive addition to a place already of great picturesque beauty and landscape improvement. It looks as if we may be able to domesticate the English pheasant in this part of Ogle County. Several landowners are desirous of looking after some this spring, if our State Game Commissioner has them to send me, and I want myself to experiment with the hatching out of some eggs and the raising of the young. But, in order to have these game birds prosper in their surroundings, it is necessary to have low-growing shrubs, really the old-fashioned "thickets" and grass along the fences and in the fence corners, and along the highways, are needed. Our farmers and landowners must not keep their borders so immaculately free of all the tangle of wild growths that delight to ramble along the edges of their land. The benefit to their crops by the eating of the disastrous worms and insects will more than repay them for any weeds that might creep in, or any shade that might disturb the roots of their grains, not to speak of the pleasure and beauty that will be within sight and sound of their homes. Some years ago a "stake-and-rider" fence ran along the south line of a farm of ours where a wilderness of wild things grew on both sides of this fence. This was the favorite nesting place for many prairie chickens, and at dawn and sunset the air was resonant with their calls and murmurs. Now a wire fence and a clean border line are there, and no prairie chickens!

OBSERVATIONS ON A PAIR OF NESTING SONG SPARROWS.

Ralph E. Wager, Northern Illinois State Normal School.

One of the most important and constant agencies in keeping down the hords of insects is the bird. This fact is slowly impressing itself upon us. Remove the bird, and insects, even at the best vexations enough, multiply prodigeously, since one of their natural enemies is removed from the struggle.

While this relation between birds and insects has long been recognized, yet the time is not past for further studies with reference to it. Facts already at hand have been obtained chiefly by killing large numbers of a given species and examining the stomach contents in order therefrom to identify the insects it had eaten. These studies have been undertaken by State and Federal authorities and the results set forth in bulletins published by them. This method of attacking the problem is, of course, the only practicable one under ordinary conditions. When, however, birds are rearing their young, their activities are considerably localized, and, by properly accustoming the birds to his presence, one can observe directly what they are feeding to the nestlings; and by patient observations can determine also how often and how much they are feeding. This does not necessitate the destruction of bird life, and has additional advantage, also, in that it retains as an element of interest in the undertaking, the charm of the bird at work, meeting in its way the problems of its existence. Furthermore, actually to see the parent birds bringing to their young large numbers of larvæ injurious to various plants, lends to their beneficient work a realism which is otherwise impossible.

Two of the Nestlings Almost Ready to Fly.

It is unnecessary to review the work done on the feeding habits of birds. Bird students are acquainted with the facts. However, there are but few records of the activities of nesting birds extending over any considerable interval. Many observers have recorded such activities as have been carried on for a few hours,* but it is impossible to appreciate the full significance when so little is known. The present paper is an attempt to record, imperfectly it is true, the work done by a pair of song sparrows in one day's time. So far as the writer knows there is no record of similar observations on this species.

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* For an excellent bibliography see Weed & Dearborn's "Birds in Relation to Man." Published by Lippincott's.

On June 4th the writer discovered a nest of a pair of song sparrows so located as to lend itself easily to observation. Several bird-students, chiefly members of a Nature Study class, were enlisted in the undertaking of making the record. The nest was located in a shallow pit along the margin of which was a thicket of hawthorns furnishing a convenient screen. Observations were made from a distance of about 15 feet.

The nest was discovered in the evening. The following morning a camera was set up near the nest. Later in the forenoon it was moved nearer and focused upon it. As often as possible during the day visits were made to the nest in order to accustom the birds to human presence. In the afternoon it was found that the female was feeding the young regularly, though, at any rate while observed, showing some fear when approaching the nest. She alighted at some little distance from it and approached by skulking through the grass. The male brought food, but could not overcome his fear of the strange objects. He, too, approached by skulking through the grass along the margin of the pit, until he reached a point directly over the nest. From it he made frequent short sallies in its direction or flew to a neighboring weed from which he chipped his alarm, ending usually by eating the food himself. Still later in the afternoon it was found that the male had overcome his misgivings sufficiently to bear his part in the labor of supplying the young with food. The following day the birds became more oblivious to the camera as well as to the presence of an observer. Several exposures were made, some of which are reproduced herewith. By this time one could seat himself a little distance from the nest and the birds would come and go without displaying any apparent fear. They were ready now for the more complete observations, which were made the following day.

Both Parent Birds at the Nest; Upper One, Female; Lower, Male.

On June 7th, then, observations were begun at daybreak and continued until twilight, when the birds ceased from their toil. The appended record is, of course, incomplete in many ways, and would therefore be more valuable had it been possible to identify with certainty all of the insect forms fed. However, it is instructive even as it is.

When the nest was discovered it contained six visible young. The day following its discovery one dead nestling was removed, evidently crowded to suffocation. When on June 7th the young were removed to be weighed another young one in a state of semi-putrefaction was found buried beneath those more fortunate to survive. Evidently, it, too, had been overcome by its stronger relatives. In addition, an egg was found just outside of the nest. It appeared to be normal in every way. Two of the nestlings were larger than the others. On the day of the observations their feathers were rapidly growing and they were able by the use of their wings to flutter out of the nest. The other three were considerably smaller, with pin feathers just developing in the tracts of the wings. The two larger ones left the nest the following day and the smaller ones three days afterward.

A summary of the record may be made as follows:

Male fed young, 126 times.
Female fed young, 177 times.
Total, by both parents, 303 times.
Average interval between feedings, 3 minutes.
Excreta removed, 109 times.
Weight of nestlings at 4:25 a. m., 91.4 grams.
Weight of nestlings at 7:35 p. m., 100.7 grams.
Increase in weight, in 15 hours, 9.3 grams.
Percentage increase in weight, 10.1.

The day following the one on which the record was made furnished opportunity to collect several of the pellets of excreta. The two larger nestlings had left, hence the calculation must be by so much in error. The average weight of these pellets was .2 of a gram. It must be noted also that these were obtained by gently pressing upon the bodies of the nestlings, hence must have been considerably under the average size of those expelled under natural stimulus. However, the observation was frequently made that the parent birds carried away masses of excreta of considerable variation in size. Assuming, however, that .2 gram represents the approximate weight of the excreta masses, it results in the quantity of 21.8 grams, as the total removed from the nestlings during the day. As previously noted, the grasses and weeds shading the nest were removed or turned aside in order that the nest might be more easily observed. This resulted, of course, in exposing the nestlings to the direct rays of the sun. Evaporation from their bodies, as well as the amount of water vapor in the expired air, must have been considerable. There was no way of determining this. The gain in weight together with the weight of the excreta removed, amounts to 31.1 grams; an amount which would be greatly increased did we know the weight of the water lost. It is evident that the weight of the food for the period covering the observations must have been at least over 40 grams.

An effort was made to obtain some of the larvæ in order to identify them. This did not prove practicable, since in feeding, the parent birds mutilated them badly. The moths appeared to be those whose larvæ are cutworms and sod worms, though, of course, there could be no certainty with reference to their identification. It is noticeable that during the middle portion of the day the number of moths fed was much greater than at any other time.

In the record the term canker worm is used since such are popularly known to be destructive. Of these, several species were being fed. From what plants they were being obtained could not be determined. Some times the old birds flew into the meadow and at other times, and more frequently, over the thicket where were wild gooseberry, cherry, haws, and other shrubs and trees.

The parent birds were not observed to eat the masses of excreta, though it is possible that they did. They always left the nest quickly and flew some little distance with the masses in their beaks. None were found to have been dropped near the nest.

The fact of the rapid increase in the weight of the nestlings is in conformity with the observations made by many others. If, however, we carry it over and assume a similar rate of growth in the human young, it becomes especially striking. Assuming that to a baby weighing seven pounds, food was supplied in a correspondingly large amount, and that the baby could digest it with equal facility, the baby would then grow to average adult proportions and weight of 150 pounds in less than a month. Now, after the nestlings have left the nest, they are fed and cared for by their parents for at least two weeks before they begin to acquire the ability to shift for themselves. Our baby, then, now grown to adult weight, would receive further care and doubtless all of his education, in a little over another month's time, after which he would be expected to take his place in the world and shift for himself. This rapid growth and development on the part of the young birds is, of course, a remarkable adaptation since it permits of their being reared while food is plentiful, and, too, enables the young to harden and adjust themselves to their necessities before the time of migration sets in.

One cannot have observed birds such as these busy ones bringing to their young, with ceaseless regularity, large numbers of insect larvæ, many of which are known to be destructive to man's interests, without coming to an appreciation of the great value of the bird. In addition to the song sparrow are many others whose feeding habits are similar. If not disturbed, many species of birds nest within the area of an acre, and in a square mile there may be scores or even hundreds of nests. Multiply then the work for a single day, of a pair of song sparrows by scores of hundreds and one has the result of birds' efforts in feeding their young. As a factor in keeping down the insect hosts, they cannot be overestimated. They are one of Nature's checks in preserving the balance.

Female with Canker Worm.

It is only fair to append the names of those who assisted in the observation, since to them, as well as to the writer, belongs the credit for this paper. They are: Louise Boswell, Bertha Cramer, Myrtle Drury, Emma Foy, Marion Hayward, Alma Henricks, Florence Moses, Ida Smith, Lola Swift, Genevieve Vernor, in *Nature Study Review.*